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**STRAY STRAWS**

FROM DR. C. C. MILLER.

OLD COMBS, if you have any to melt up, should be broken up fine while it is cold enough for them to be brittle.

WILL FOUL BROOD originate from rotten brood? is asked in *A. B. J.* Of the 24 answerers, only three seem to have any fear of it.

THE SEVERE WINTER has the hopeful side that the ground is continuously covered with snow, and clover ought to be well protected.

WHEN CHILDREN are cross, we call it "cross." When you or I are cross, we call it *tired* or *nervous*. I suppose children wonder at the mystery of language.

GRIMSHAW, a noted English bee-keeper, should have had the credit of starting the theory that heredity comes through the workers rather than the queen.

IF OVER 30 PAGES of solid reading are to be in next *GLEANINGS*, please send mine in two installments. It always makes me feel bad next day when I sit up so late.

IN TOASTING BREAD, you can save lots of time by putting the slices in the oven to heat before toasting. Indeed, you can complete the toasting in the oven if all is right.

BROTHER Root, while you are about it developing so many kinds of onions, suppose you develop an odorless onion. Then we can eat a dinner of onions without hiding in the woods the rest of the day.

I DON'T KNOW very many things for certain, but on one point I felt comfortably confident—that "the longest pole knocks the persimmons." But Golden's picture on page 127 sets me back in dark ignorance, for it seems the persimmons are not "knocked," but "clumb and picked."

THE PRIZE SHOW of honey intended for the World's Fair is reported by the *British Bee-keeper* as remarkably fine, "a unique event in the annals of bee-keeping—the like of which will probably never occur again." Liquid and granulated extracted honey are mentioned, but no comb.

RED CLOVER. H. S. Babcock (*Agriculturist*) thinks may yield honey at first crop, if nectar rises high enough in the tubes. But he thinks "the persistence of bee-keepers in the belief that red clover does afford nectar to the hive-bee is not proof of the fact." But, bless your heart, Mr. B., when they see thousands of bees working on the blossoms, isn't "the persistence" of the bees pretty strong proof?

THE WORD "STOCK" is given in Phin's dictionary as meaning the hive and every thing in it, thus making it differ from "colony" which means only the bees. Others, especially in England, use "stock" as synonymous with "colony." Wonder which is right. It would at least be more convenient to take Phin's view.

THE HEREDITY QUESTION was submitted by M. Bertrand, editor *Revue Internationale*, to the great naturalist, M. Alph. de Candolle. He thinks size and strength may be affected by food, but not qualities of the nervous system. But M. Bertrand propounds some conundrums that seem hard to answer, on the other side.

DON'T BOIL SYRUP for winter feeding, or for spring either, is the advice of W. B. Webster in *B. B. J.* He says the sugar has been already cooked, and, if merely allowed to stay on the fire till dissolved, it will need no acid to prevent granulation. If you prove any thing on either side of this question by trial, please report.

CAN YOU CLINCH a wire nail? You drive it through, then try to clinch it, only to find that you have driven it partly back, and the point refuses to stay down. Try it this way: After driving through, bend just a little part at the point with the claw of the hammer, then make side strokes in clinching and see how it will hug.

BEE-STING CURES have always included saleratus, on the ground that an alkali neutralizes the formic acid. Now come two writers in *B. B. J.* enthusiastic over an acid as a remedy—vinegar. One says it stops pain, but not swelling. The other has seen it used on several people, in each case entirely preventing swelling.

WHY DO GOOD solid writers go to romancing when they write for the agricultural papers? One of them lately gave, as an average profit in an average year, of a single colony of bees in the hands of a beginner, besides paying \$2.25 for a smoker and book, a clean profit of \$8.75. I don't see any good to come from such statements.

ALFALFA seems to do well in Western New York, at least in some parts. The State Experiment Station reports: For seven successive years at the station, three and four cuttings per year have been taken from the plats, and on the sixth year of the succession the plats yielded more than fifteen tons per acre of green forage, equal to 5.6 tons of alfalfa hay.

BEE-POISON has a new function ascribed to it by a German bee-keeper. He thinks it is a disinfectant, disinfecting the air that comes into the hive, even to killing the germs of foul brood that float in the air, and advises against upward ventilation, which allows the escape of

the disinfected air. He also approves crowding bees into a small space, so that the poison may be more condensed.

A BEE-BRUSH is thus described by Mrs. Jennie Aitchley, in *A. B. J.*: "A brush made of corn shucks is good, tearing the shucks into shreds, and tying on to a handle like a little broom; this makes the best and cheapest brush of any thing I have tried. When it becomes hard, dip it in water." That's good, Jennie; but wouldn't you like Coggshall's better?

THE GENIAL FACE of J. A. Green, together with his biography, appears in *A. B. J.*. He says he doesn't expect to be married till Fortune has smiled on him a little more kindly. You're making a bad mistake, Jimmie. Fortune doesn't smile on any such foolishness. Never you mind Fortune. Just get the girl to smile on you all right, then fix up the hive in good shape as you can, and Fortune will snicker right out at you.

### LANGSTROTH'S REMINISCENCES.

#### LANGSTROTH'S MOBILE FRAME; HOW NEAR OTHERS CAME TO INVENTING IT.

Early in the spring of 1852 I moved all my bees to my new apiary, adding to them a large number of stocks in common box hives, which were afterward transferred to the movable-frame hives. This apiary was under the charge of Henry Bourquin, a very skillful cabinet-maker, and an enthusiastic lover of bees. He made the pieces necessary to change my bars into movable frames; and on the first day warm enough for bees to fly, the side attachments of the combs to the front and rear walls of the hive were cut, the bees shaken off the combs, and the uprights and bottom strips nailed in place; and so the bar hive became at once a movable-frame hive, in full possession of a stock of bees.

Imagine me so absorbed in manipulating these frames, with the bees upon them—removing from the hive and replacing them—shaking the bees from them, and changing their relative positions, etc., as not to notice the presence of an old bee-keeper, nor even to hear him, until he fairly shouted out, "Friend Lorenzo, you are so taken up with your new hive that you seem unable to hear me, or to see any thing else. No doubt you think you have made a great invention; but I say you have made no invention;" and then, repeating the words, "you have made no invention," several times to my great astonishment, he wound up by saying, "Friend Lorenzo, you have made no invention at all, but, rather, a perfect revolution in bee-keeping!" You have got what I have so long wished for—that control of the combs of a hive, by which you can at any time know the condition of your bees; and, if any thing is wrong, be able to apply the proper remedy."

That same season I had over one hundred movable-frame hives made, some of which were sold with the right to use the patent whenever it should issue; but by far the larger number were publicly used in my own apiary in West Philadelphia.

I am the more particular in recording these facts and dates, because afterward there was an unfortunate misunderstanding of them by the late Baron von Berlepsch, to whose researches and writings modern bee-keeping is so greatly indebted. In the Feb. No. of the 7th Vol. (1872) of the *American Bee Journal*, I have given a full account of this matter, and to this account I refer those who wish for fuller information. There can be no doubt that my

recorded application for a patent on a movable frame antedated that account of his hive which Berlepsch sent to the editor of the *Bienen Zeitung*, nor that he afterward strongly condemned his own invention, and requested the editor to relegate it to his lumber-garret. Nor did he, until some years later, refer again in the columns of the *Bienen Zeitung* to the subject of movable frames; and when he did notice them, my hive was already largely in public use, and a demonstrated success.

It was not until after I had applied for a patent that I had any knowledge of the hive of the late Major William A. Munn, of England, which was patented in France in 1843. The first edition of the pamphlet in which this hive was described (1844) had been so effectually suppressed by the author, who offered the second edition free to any one releasing the first, that it was with great difficulty and at considerable expense that I obtained a copy of it, Major Munn himself not having preserved a single one. The second edition of his pamphlet, in which he materially changed the plan of his hive, was published in 1851; but its great cost, and the absolute impossibility of manipulating with it to any advantage, made his hive, either for observation or for practical use, very much inferior to the Huber hive, which it was designed to supplant. It was never referred to by Bevan, nor recommended by any other English authority in apiculture.

After my hive, in a modified form, had been introduced into England by the lamented Mr. Woodbury, Mr. Munn again tried to bring his hive into notice; and he evidently thought that my invention had been copied from his, while he had been denied the proper credit to which he was entitled. I need hardly say how entirely he was mistaken in this opinion.

In justice to the Major, it should be stated that he seems to have been the first person who attempted to use movable frames inside of a case or box. His priority in this respect was evidently unknown to Kline when he published, in German, his history of movable-frame hives. Mr. Munn had certainly struck out a very important idea, but he failed so entirely in adapting it to practical use that his invention produced scarcely a perceptible ripple upon the apicultural ocean. In a private letter to me, he says that his great difficulty was *in preventing the bees, when left to themselves for a short time, from shutting up the shop.*" A mere glance at his hive, as figured and described in 1851, with the wide spaces left, in some places, between the frames and the case, shows very plainly a sufficient cause for his failure, even if there had not been others almost as obvious.

In 1847, Mr. Debeauvoys, of France, introduced an invention, also designed to supersede the Huber hive. In its first form it proved a complete failure. There being no bee-space left between his frames and the case containing them, the bees soon propolized them to the roof and front and rear walls of this case, so as to make them practically immovable. In 1851, a memorable year in the history of movable-frame hives, Debeauvoys published improvements upon his first plan, and, later still, made other modifications of them. But with all his efforts, he failed, as Hamet, editor of a French bee-journal, writes, to secure the approval of those most largely engaged in bee-keeping, while it was the great good fortune of my hive, from the very start, to find the most favor with this very class.

The Debeauvoys hive, in its approved form, kept the uprights of the frame at proper distances from the walls of the case, and some of its worse defects might easily have been remedied. To fail, after coming so near to success,

has been the hard lot of how many inventors! The failure of this hive in France created such a prejudice against movable frames as left that country for a long time decidedly in the rear in aparian progress. See an article by Charles Dadant in the *American Bee Journal*, Vol. 7. p. 197. Neither the Munn nor Debeauvoys hive made any provision for securing the surplus honey outside of the case holding the frames; and this defect alone would have proved an insuperable bar to their general use.

Dayton, Ohio. L. L. LANGSTROTH.  
Continued.

### IS SUGAR SYRUP CONVERTED INTO HONEY?

THOS. WM. COWAN, THE EDITOR OF THE BRITISH BEE JOURNAL, DEFINES HIS POSITION IN THE MATTER OF DIGESTION; DIGESTION OF NECTAR; ANALYSIS OF HONEY, ETC.

In GLEANINGS for Jan. 1, page 31, I am reminded of a communication of mine respecting digestion, about which I had entirely forgotten. I have now referred to the article in GLEANINGS to which I alluded, and I find that it arose out of the review you were kind enough to make of my book, "The Honey-bee," on page 323, April 15, 1891. The review was a very good digest of what my book contained, and in the first column you ask the question, "What is digestion?" and the reply is given in almost the same words as those found in my book, which are, "The object of digestion is to separate the nutrient part of the food from the non-nutrient, and to convert the former (*i.e.*, the nutrient) into a liquid fit to mingle with the blood, and thus to nourish the body of the insect." To this our friend Professor Cook took exception on page 359 of GLEANINGS for May 1, 1891, where he says, "Mr. Cowan is usually very accurate; but is digestion separating the food? I should say, digestion is rendering the food capable of being absorbed, and that absorption did the separating."

To many it may not be apparent that there is any disagreement between the two statements; and, so far as the practical bee-keeper is concerned, it would not very much matter if there were. But from a physiological point of view, of course it is interesting to know how digestion is affected. For the definition of the word I might refer to several dictionaries; but I suppose that a dictionary compiled by your best men, and published in your own country, would be looked upon by your countrymen as of considerable authority; I therefore refer to Webster's International Dictionary, revised by Noah Porter, and in the latest edition I find that "to digest" is defined, "To separate [the food] in its passage through the alimentary canal into the nutritive and non-nutritive elements; to prepare, by the action of the digestive juices, for conversion into blood; to convert into chyme." Here you have what I think is the correct definition of digestion, and I maintain that no absorption could take place without separation first. The food, coming in contact with the gastric juices in the chyle-stomach, is partly dissolved and converted into a liquid fit for absorption at once; the remainder, which is separated from the liquid portion, is forced, by the muscular wall acting upon it, into the small intestine, where digestion is completed. Here the portion of the food that has escaped the soluble influence of the gastric juice of the stomach is further digested and separated. The digested portion of the food is absorbed, and the residue passes on to the next part of the alimentary system; and as all the nutrient portion has been absorbed, what

remains is evacuated in the form of excreta. It will thus be seen that the process of digestion is both a chemical and a mechanical one. The very act of making the food capable of being absorbed necessitates a separation of it.

There is another point I should like to touch upon briefly, because I find that, in GLEANINGS for Jan. 1, 1893, Prof. Cook, in his article on "Sugar-syrup Honey," apparently quotes passages from my book which seem to support his proposition. The question turns upon whether sugar syrup given to bees, and stored by them in the combs, is honey. Prof. Cook maintains that it is; but I am sorry to say that I for one must differ from our friend; and, for reasons which I shall endeavor to explain as briefly as possible, I do not think such a product could be legitimately called honey. If there were any doubt in my mind I would gladly give our friend the benefit of it. He bases his conclusions upon:

1. His statement that honey is digested nectar.

2. That sugar syrup, after being stored by bees, was pronounced by competent bee-keepers as honey.

3. That three chemists analyzed it, and could not distinguish it from the best clover and basswood honey.

With regard to the first, he quotes me as supporting his hypothesis; but I think I can show that there is a considerable difference between us as to the definition of honey.

It is true, I state on page 7 of "The Honey-bee," that "the nectar which is gathered from flowers has been converted into honey by a secretion derived from the salivary glands," and I also state that Dr. Planta has shown that this alteration consists in the conversion of the cane sugar in the nectar into grape sugar of honey. But neither Dr. Planta nor myself, nor even Mr. Cheshire, call this digestion, and I think from the explanation I have given above it will be understood why we can not call honey digested nectar.

By reference to page 106 of my book it will be seen that I say, "The food taken by the mouth enters the oesophagus, which continues through the thorax as a narrow tube, and expands, after it has reached the abdomen, into the honey-sac, this acting as a temporary reservoir for the collected nectar. From here the food passes on, to be digested by the action upon it of the gastric juices secreted by cells in the chyle-stomach." It will be seen from this that I do not even mention digestion as commencing before the food enters the chyle-stomach. Then on page 110 I say, "By the action of the juice produced by these gastric glands upon the food, in the process of digestion in the chyle-stomach, it is changed into chyme. This first stomachial digestion is called chymification." Please note that I say "this first" digestion, showing that I consider that digestion does not commence till the food enters the chyle-stomach, nor can it be said to do so in any true sense of the term. That the cane sugar of nectar is converted into the grape sugar of honey is true, but this can not be called digestion.

Now, there is another quotation made by Prof. Cook to support his theory, taken from my book, on page 10 of GLEANINGS, which, as printed, is not quite correct, and thus does not convey the meaning intended by me. It is this: "The production of a secretion to assist digestion to convert the cane sugar of nectar into the grape sugar of honey." Here the omission of a comma, found in the original, and printing digestion in italics, which is *not* found in the original, quite alter the meaning, and appear to convey the idea that digestion and conver-

sion of the cane sugar are directly connected with each other; whereas, it is not so. The comma is placed there in order to prevent the repetition of what the "functions of the glands" are. The passage referring to the functions of the glands in my book reads thus: "The production of a secretion to assist digestion, to convert the cane sugar of nectar into the grape sugar of honey, for the elaboration of wax, etc." The commas cut up the paragraph into different sentences; and you see from this that the meaning is quite different, and I can not see how it can be adduced in support of Prof. Cook's theory at all. As the italics do not exist in the original, they go for nothing in the quotation.

The next point I should like to touch upon is, whether sugar syrup stored by bees in the combs is converted into honey. To this I have no hesitation in saying it is not; and this notwithstanding what the chemists and the bee-keepers mentioned by Prof. Cook affirm. Now, what does the experiment our friend alludes to prove? Simply this: That the 23 lbs. of syrup given to the bees was turned into *invert* sugar, and not into honey at all; and that even that a certain quantity of the cane sugar, viz., 8 per cent, remained unaltered, there being 67 per cent of glucose. Honey does not contain any cane sugar at all, but is composed of about equal parts of dextrose and levulose. Besides these, honey contains formic acid, essential oils derived from the plants, and small quantities of other saccharine substances, which combined give it the peculiar aroma and flavor. Remove these and the characteristics of honey are gone.

To go fully into the chemical properties of honey, glucose, etc., would make this article too long; but I should like to point out that, notwithstanding what the chemists quoted by Prof. Cook say as to the analysis of this syrup-fed production, it is possible to determine with certainty pure honey from any such spurious imitation. This may be done by means of the polariscope, combined with previous dialysis, by the method of Dr. Hænli.

I stated that honey is composed of dextrose and levulose. The crystalline portion of honey twists a ray of polarized light from its ordinary straight path toward the right, and is on account called *dextrose*; the non-crystalline portion turns it to the left, and is, therefore, called *levulose*. The great bulk of honey consists of about equal quantities of these two sugars. There are a few exceptions, such as, for instance, conifer honey. The rotation of levulose to the left is greater than the rotation of the same quantity of dextrose is to the right; therefore when found in about equal quantities, as in pure honey, the polarized ray is twisted to the left. All other sugars turn the ray to the right, so that, whatever saccharine admixture is made to honey, it is thus readily detected. It is specially marked in the case of starch syrup, or commercial glucose, so that it is very easy to detect even a small admixture of this substance, which, in addition, contains also *maltose*. Cane sugar can also be detected in the same way, as it is strongly dextro-rotary. Conifer honey has a peculiar composition, in that it contains a larger proportion of dextrose; consequently the ray of polarized light is turned to the right. Until recently it was difficult to distinguish with certainty conifer honey from adulterated honey; but Dr. Hænli's researches have given us an infallible and easy method, not only of determining this with certainty, but also the exact proportion of adulteration of pure honey with glucose or any other sugar. This is done by *dialysis* previous to polarization. It has been found that, after dialysis of a certain number of hours, the deviation of the ray of

polarized light to the right or to the left remains stationary, and that all pure honey will turn the ray to the *left*, even if it turned it to the right previously, as it does in conifer honey; but that any admixture of glucose or cane sugar would always turn it to the *right*, notwithstanding the dialysis.

Now, as regards cane sugar given to bees and stored by them in combs, the following was the result: The solution of cane sugar before it was given to the bees turned the ray of light to the right + 105°. After being sealed in the combs for 6 weeks it was + 65°; and the same after 8 months in the combs. But after a dialysis of 10 hours the deviation to the right was reduced to + 9°; and after 20 hours it was further reduced to + 7°, and at this it remained stationary. Normal honey has an average deviation of - 30° to the left. This experiment is very interesting, because, during the time the bees were being fed they were also collecting small quantities of honey, which, mixed with the sugar syrup, reduced the deviation of the ray of light to the right to + 65°. But even this admixture of honey, whatever the quantity might have been, could not alter the dextro-rotation of the ray which remained stationary at + 7°.

It will, therefore, be seen that sugar syrup, stored by the bees in the combs, is not converted into honey, although it may be invert sugar; also, that the smallest admixture of cane-sugar syrup to honey can easily be detected.

There is a good deal more I could say on this subject; but I feel that I have already made this communication too long; but I think I have been able to show that it is not so difficult to detect the difference between such a spurious product and honey. It may be a comfort to bee-keepers to know this, for I can not imagine any thing more detrimental to the industry of bee-keeping than that bee-keepers should themselves for a moment countenance adulteration in this form. Many years ago an attempt was made by some unscrupulous Scotch bee-keepers to show sugar-fed supers; but by appointing an analyst, the British Bee-keepers' Association was able to nip in the bud adulteration in any form; and now at all shows held under our rules, honey is shown only subject to analysis if necessary.

THOS. WM. COWAN.

P. S.—Since writing the above, GLEANINGS for Jan. 15 is at hand, and I am pleased to see Prof. Cook has withdrawn his advocacy of putting sugar-fed combs on the market, and I am also pleased that there should have been so general and determined a protest by the bee-keepers against feeding for such a purpose. Mr. Heddon seems to think that the public does not care whether honey is adulterated or not. But the public does care; and as an instance I can mention that American honey has not taken the position it should have done on our markets, and that at times large quantities have been lying in Liverpool, and could not find purchasers, even at times when British honey has been scarce. What do you suppose is the reason? It is because that, so long ago as 1879, a person named Hoge, and Messrs. Thurbers introduced adulterated honey, consisting largely of glucose. Later, Hoge started a factory in London for manufacturing pure California honey and horehound honey; also other sorts of honey. Our analyst exposed the frauds, and the adulteration was stopped; but the injury was done; and to this day the sale of American honey is very small in proportion to what comes from other countries; and there is a deep-rooted prejudice against it. So you see the injury done fourteen years ago is still felt, and this,

think, shows that the Republic does care for adulteration.

T. W. C.

[Perhaps our readers may be greatly surprised to see the heading above, when we, in our issue of Jan. 15, declared that the discussion had gone far enough, and would have to be closed, and that, too, when we had rejected so many articles from our friends, supporting our own position. In our issue for Jan. 15, we had forgotten the fact that Mr. Cowan was referred to by both Prof. Cook and ourselves as authority. As he lives on the other side of the "big pond," and is, a part of the time, away from home, many days would elapse before he would see the discussion, and the matter wherein his name as authority was involved. It would be simply impossible for him to have replied in our Jan. 15th issue; and it seems to us that it is only a matter of justice and right to him that, inasmuch as his name and book were referred to in the discussions, he be allowed to explain his position. The article is a most valuable one, and we believe there is no higher authority in all Europe, on the question at issue, than Mr. Cowan. His statements in regard to analysis, and the elements that make up true floral honey, agree substantially with those of Prof. Wiley at the Washington convention.]

### CALIFORNIA.

IS IT A GOOD PLACE FOR A NOVICE TO COMMENCE BEE CULTURE? ALSO SOMETHING IN REGARD TO THE STATE OF LOUISIANA.

"i seen a Pece what you had wrote in Bee GLEANINGS about californy," etc.

This, Mr. Editor, is a sample from one of the many letters which I have received from would-be immigrants from the East. After an introductory like the above will follow a thousand and one questions, more or less, relative to bee-keeping, fruit-growing, house rent, the cost of furniture, wages, what kind of work is to be had; and one man, after telling me all about his children, wanted to know whether the climate was adapted to "raising babies."

The young man who wrote the letter inflicting so many wounds upon Uncle Sam's English, and with a quotation from which I begin this letter, is, I am happy to state, not a bee-keeper, but merely a lusty young laborer who happened to stumble across a copy of GLEANINGS containing a "Pece what you had wrote." I sent him a postal card, stating he had better not come here, as we think so much of our State that any man who would dare write California with a little c would be lynched as soon as we could get hold of him.

I have answered most of these letters heretofore; but after this one through GLEANINGS I shall answer no more.

Regarding the prospects for future prosperity from embarking in the business of honey production here, I would state that, of those already here and engaged in the business, not more than one in fifty makes more than a poor living at it. It may be our own fault, and I rather think it is; but I do not believe the newcomers will succeed any better than the old-timers do.

Our average crop is perhaps no larger than the average crop east. All kinds of supplies, except foundation, are higher in price here, while the money we get per pound for our honey and per swarm for our increase is considerably less than bee-keepers east get for the same items. We can probably keep more colonies advantageously in one location than can be done in any of the Eastern States; but judging from reports, I do not think we have any flow-

ers which secrete honey in such abundance as your basswood and clover do. On a sage-ranch there are millions of blossoms, but each one contains so minute a quantity of honey that it takes a bee a long time to get a load. Mr. Manum, of Vermont, reports a gain of his scale hive of 33 pounds in a day. Mr. Mercer's report of 18 pounds is the most I ever heard of being gathered in one day here, and that is 7 pounds greater than any other California report of which I know any thing.

Once in five or six years we get a crop, the bountifulness of which is perhaps greater than you ever have east; but in such years the honey is a drug upon the market—the world is flooded with it, and I have seen our finest honey selling for three cents a pound, only \$3.60 a case, and from that must be deducted the dollar which the case cost. Take it all in all, I doubt whether bee-keeping is as profitable here as in the East. For my own part, I have had my apiary of 55 hives in Louisiana, average over 200 pounds to the colony, while my best average in California has been but 130 pounds, and that, too, from a small apiary—only 80 hives. (I have never had bees, however, in a good location during a good season.)

But as regards this question of profit; I think it depends more upon the man than upon the locality. If the bee-keeper is energetic and intelligent he will succeed east, or west; and if he is lacking in these qualifications he will fail in either place.

One sees but little mention of Louisiana as a State adapted to bee-keeping; yet it is among the best. To my positive knowledge, some twelve or fifteen years ago the Hon. Chas. Parlange, now Lieut. Governor of the State, and then a young law student, made a \$4000 crop in one apiary. It was brains and energy that did it, and the same qualifications have now raised him to a high position in the government of the State, and made him prominent at the bar of New Orleans.

I would advise all bee-keepers migratorily inclined to investigate into the resources of Louisiana before coming here and competing in an already crowded district.

I was a boy when Mr. Parlange first commenced bee-keeping on his place near my old home, and it was from visiting his apiary that I was incited to engage in apiculture. I began with 10 three-frame nuclei, which I purchased of Mr. P. L. Viallon; and the third year after the purchase I had increased to 97 strong colonies, and sold, that year, over \$900 worth of honey.

Apropos of the discussion on adulterated honey, the crop produced that year by Mr. Parlange, my brother, and myself, was sent in one shipment to a commission merchant in St. Louis. I do not remember now how many barrels of honey there were, but nearly enough to load a steamboat—a very small one perhaps—but at any rate, the merchant to whom it was sent concluded so much honey was never gathered by bees, and so had some of it analysed by a chemist. The chemist pronounced it as being adulterated with sugar. Since that time I have always thought chemists were frauds.

From just what the bulk of Louisiana honey is gathered I could never make up my mind. I wrote to GLEANINGS in those days, and suggested corn; but A. I. R. laughed at me. Then I criticised Prof. Cook's Guide, wherein he said we reaped a rich harvest from cotton; and then A. I. R. in his foot-notes, preached me a sermon on charity; something which he would not have done had he known in what esteem I held Prof. Cook, and the value I placed upon his opinion; for it was by closely following the teachings of Cook's Bee-keeper's Guide that I

was enabled to increase those 10 nuclei in three years up to 97 strong stocks, and get honey from them in proportion. To this day I value the Guide a little more than any other bee-book, and I have all the American ones.

I wish some of the bee-keeping fraternity in Louisiana would write a "pece for BEE GLEANINGS," and tell us all about the honey industry there at present. I am sure there are many of "BEE GLEANINGS" readers who would be interested.

So, Mr. Root, you made fun of my bee-escape. Well, L. E. Mercer does the same thing; but his son Bert, who is the better bee-keeper of the two, says it's a "dandy."

W.M. G. HEWES.

Newhall, Cal., Feb. 1, 1893.

[Very good, friend Hewes. I should say you are about right in what you say in regard to California. While in New Orleans a year ago, friend Winder and myself talked over this matter of that great crop secured by Charles Par lange; and now I want our Louisiana bee-keepers to stand up and tell us what the matter is. Haven't there been any more such good seasons, or is it the right sort of man that is needed to secure the honey? I really beg your pardon, friend H., for what I did so many years ago. Perhaps we are all a little wiser now than then.]

### RAMBLE 79.

#### HOW THE RAMBLER SHOOTS SQUIRRELS.

After crossing the pass beyond Mr. Donahue's, our road led us down grade several miles. We at length struck bottom in a beautiful valley that seemed to have no way out of it except over those immense mountains that arose on every side. Here we found a ranch known far and near as Sheckler's. Mr. Sheckler is a large, well-built man; and if there is any wind in the valley his whiskers are of the kind through which it could blow. The house is embowered in trees and grapevines, and we were invited to a seat on the veranda, and a big watermelon was brought in for us to struggle with. Our host has upon his ranch, horses, mules, and cattle; and it appeared to us that he owned the whole valley; 300 colonies of bees were also kept to gather the sweets, and the location was an ideal one for the easy gathering of honey. The bee can fly up lightly to the mountain-sides, and drop down easily with its load. Mr. S. was another of those men who were free to confess that their bees do not get the attention they deserve, and he was desirous of adopting better methods of management.

His bees were also condemned by the fruit-man over in Del Zura, six miles away, and over a rough and rugged mountain, and threats of suing and poisoning were burdening the air.

"Why," said Mr. Sheckler, "if any persons poison my bees, or burn them, and I find out who it is, I'll plant the red spider and the scale on his trees, and retaliate until he gets enough of it. Yes, I would." He did not say he would girdle or mow down the young trees, or poison horses and cattle; but even such a method of retaliation would be no worse than what fruit-men are doing. It was really refreshing to hear Mr. Sheckler defend the honey industry; and, though he talked so strongly about retaliation, I have no doubt he would be slow to put it into practice. Perhaps bee-keepers have done such retaliatory deeds, but we never hear of them, which speaks well for their patience and forbearance under many trials.

From the Sheckler ranch we do have to

climb over those mountains, and, after a very pleasant hour's talk, we set our faces toward the next pass we could see, miles ahead, and follow the heavy grade up and up. We wind around into deep gorges, and then upon a sharp curve we come out on the next spur of



the mountain; sometimes under frowning rocks on one side, and a deep gorge on the other; and often, where we have a magnificent view of the valley, a sharp lookout ahead is necessary to enable us to meet at the proper turning-out places those big loads and many-teamed wagons. When we at last cross the pass we enter the Potrero country, and a little later climate. In the Potrero settlement we camped again and pitched our tent on the soft ground in Chris Nelson's garden. This young man kept bachelor's hall in a neat cottage, which he had built on a government claim. Here he has settled down for an indefinite time, having followed the sea for many years, and wandered all the way from Sweden. He is also the happy possessor of 200 colonies of bees, all in Harbison hives.

I found here an improved sun wax-extractor, which rendered the wax very nicely, and also rendered the honey, and left it in a tank, with little or no discoloration, nor a taste of being overheated. A sample was drawn from the tank, and we all pronounced it first class. The

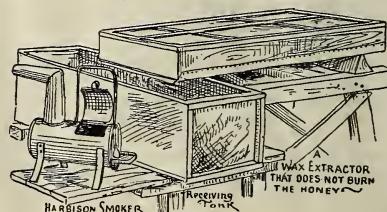


photo shows that the extractor is an ordinary shallow tank. It is provided with a tight tin bottom; at one end is a wire-cloth dam, or strainer. After passing through the strainer, the wax congeals and the honey runs a little further and drops into the large cool tank, but little the worse for its sun bath.

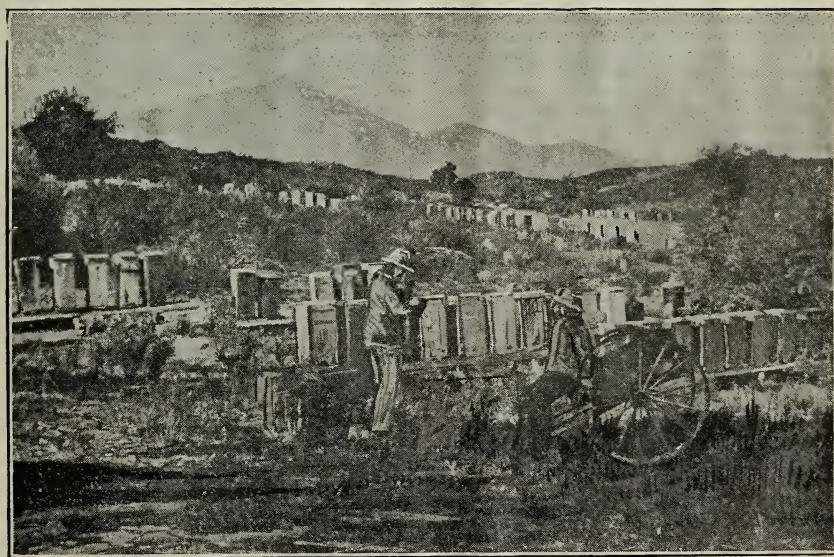
The Harbison smoker is also shown in the photo. This stove smoker, so much used in

California, is admirably adapted to use with the Harbison hive. Open the door in the rear, and the smoke, escaping from the bent tube, rolls out and up against the bees, and quickly subdues them. The fire-box will hold fuel enough to last half a day, or even longer. Our friend was thoroughly wedded to the Harbison hive, smoker, and 2-lb. section. The bellows smoker was no good in that apiary, just as a Harbison smoker would be no good with a Langstroth or other hive where we desire to blow the smoke down. Though nearly all of the colonies are worked for comb honey, Mr. N. has an extractor, and uses it to some extent.

While with Mr. Nelson we all happily "bached" together so far as the cooking was concerned. We had been very lucky that day in hunting quail, and we had a delicious feast. The Rambler's way of preparation is to first get a fine bed of coals (I want Dr. Miller to take particular notice); then fork a fine slice of bread and hold it just far enough from the coals to nicely brown it; then butter to suit.

Delightful experiences, however, are fleeting; and before the rich aroma had vanished, our tent was folded, and, with a brotherly wrench of the hand, we bade Chris Nelson farewell and climbed to the next divide and crossed the pass into the Campo region.

Under the high pressure of barley, whip persuader, and gravity, Kimball and Bob made great speed down every grade we came to, and it was here the Rambler put in some fine shooting. Gray squirrels were quite plentiful; and finding that our dog Queen was fond of them we tried to appease her appetite by shooting a few every day; and when in camp they were roasted for her. Now and then a squirrel would be seen sitting on a limb, making a fine target; and my request to Mr. H. to stop the horses until I could take aim was usually answered with a snap of the whip, and a shout, "Go, Bob," and the wagon would fairly dance over the road; and while it danced, the report of the gun resounded, and Queen, with a yelp, brought in the game. It is something like



CHRIS NELSON'S APIARY, POTRERO, CAL.; TECARTE PEAK IN THE DISTANCE.

The aroma of the bread will begin to sharpen the appetite; but meanwhile the quails have been parboiled, then cut open, properly salted and spiced, and nicely browned in the skillet; and when laid carefully on the toast—oh! such a delicious combination of odors arise and fill the room, that every one is soon engaged in passing the savory morsels to the mouth. We close the eyes, and the senses of smell and taste held us in a delightful control; and while the dainty morsel was on my tongue the imagination was quickened, and the following ode to Dr. Miller was composed:

O Dr. Miller! raise you nose  
And catch the sweet perfume;  
It's far above the fragrant rose.  
For you smell and then—consume.

*Chorus.*—No women need apply.  
Do, doctor, come to my cabin door;  
Th' old bach gives a welcome call;  
There's always room for just one more,  
And toast and quail for all.

*Chorus.*—No women need apply.

shooting at a mark from a flying trapeze; but it's nothing after you get the hang of it.

Another way people have of shooting squirrels, where they are very shy and run up a tree on the opposite side from them, is to keep a sharp lookout up the tree; and whenever the tail is seen sticking out, as it often will, the hunter shoots the tail. The squirrel, feeling something out of order, then whirls around to see, so to speak, who struck Billy Patterson, and indiscreetly shows his head. The other barrel is instantly discharged, and down comes the squirrel. This kind of shooting requires a double-barreled gun, and quick work every time. The Rambler, however, is not an expert at that kind of shooting, and leaves it to the more experienced marksmen.

At noon we camped by a sparkling stream in a beautiful dell, canopied with tall sycamore-trees. Near by was a pretty cottage, and posted on one of the trees was a sign informing us that this was the home of the Widow Bedott. Now, I used to read the Widow Bedott papers several

years ago with pleasure, and was quite desirous to make her acquaintance. Having in mind Messrs. Miller's, Root's, and Murray's vile matrimonial intentions toward my present freedom and happiness, and fearing some kind of a trap in waiting, I took the shot-gun and approached the house. After reconnoitering, making slow advances, and finally a *coup de main* I captured the premises and found them deserted. Now, I know not whether or not the original Widow Bedott lived here or not. Be the case as it may, I was glad to find no widows around, for that infernal Cupid that the artist stuck to my left pedestal still haunts me.

The Jameson bee-ranch was our next stopping-place; but that, too, was deserted by the owner, and he had left for a more congenial neighborhood. Mr. J. had introduced the Langstroth hive, and his apiary of about 200 colonies was a portion Langstroth and the rest Harbison. As in many other apiaries, we found several colonies that had been destroyed by moths. The moth is not, however, such a troublesome factor in this climate as I had supposed; but when an apiary is left alone for weeks, and weak swarms become the prey of robbers, the combs become a prey of moths. It would be a most interesting item in the line of bee-keeping statistics to know the amount of wax destroyed or wasted in California apiaries. I opine it would astonish even California bee-keepers themselves.

The mountains rise up grandly all around us now. We have left Tecate Peak behind us, but it looks down upon us yet. From the Jameson ranch we rattle down hill again, and, upon a sudden turn in the road, we overtake a man and woman in a big wagon—a team ahead, and several horses following after. My friend thought he would play smart, so he pulled out, and, flourishing whip and persuader, rushed by the astonished native. Our wild career was, however, brought to a sudden stop; for, in going over a sharp water-break, snap went Kimball's whiffletree. "There," said I, as we leaped from the wagon, "that's just as I expected from your reckless driving, and here we are, ten miles from a house, in a howling wilderness, with bears, wildcats, coyotes, and a broken whiffletree—it's all your fault."

"Yes," shouted Mr. Hansen, with his German blood up; "yes, and who's a kicking?"

I said not a word, but carefully removed my Waterbury watch, and began to wind; and before my task was completed, the native we had so gaily passed came up. His name, we afterward learned, was Joe Beals, an ex-Dutchman with Spanish wife and a dozen (more or less) children and dogs. Joe, seeing our sad plight, reached down into the bottom of his big wagon and fished up an old but serviceable whiffletree and generously loaned it to us, and in due time it was carefully returned. We were thus delayed but a few minutes, and the adverse clouds that hung over us for a few minutes had indeed a silver lining. Blessed be the name of Joe Beals and his Spanish wife. Blessed be his dozen (more or less) half-breeds; and blessed be his horses and oxen, his dogs, and his bees.

With these two thoughts we continued our journey; and to imitate the example of Joe Beals in helpfulness to strangers is the resolve of Mr. Hansen and the

RAMBLER.

*Later.*—I wish to inform the readers of GLEANINGS that Mr. Nelson of Potrero, the happy independent bachelor mentioned above, has disappointed all of his bachelor friends by recently introducing into his residence a meddler with pots, kettles, brooms, etc., and bearing the

name of "wife." Mr. Nelson was captured during the late autumn months while laboring under a cerebral aberration of the mind. He wandered too near the entralling glances of a lonely siren, and was made a life-prisoner. It is a sad episode, and shows the frailty of a California bachelor's best intentions. It will, however, serve as a warning to the rest of us, and it will be a long time before the capture of another bachelor bee-keeper will be recorded. R.

## QUEENS BY MAIL TO AUSTRALIA.

### A NEW STYLE OF CAGE.

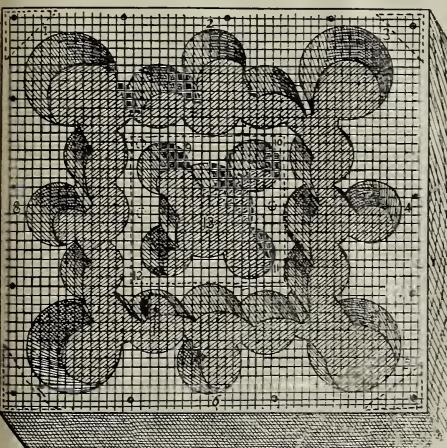
All the readers of GLEANINGS who have preserved their numbers for 1892 will find, by turning to pages 232 and 233, something regarding the mailing of queens to Australia, together with illustrations of the shipping-cages which I had used for this purpose. During 1891 I succeeded in getting about 66 per cent of the queens mailed to that country alive, which I considered quite an achievement, and I still consider it the same. During the past year I sent nearly double the queens to that country than I did in 1891; but as the first queens sent were returned to me on account of the postal laws, some of the colonies in Australia not allowing queens in the mail, I had to devise some way of their going through the postoffice at San Francisco, Cal., without detection. For this purpose I used cage No. 1, as illustrated in the article above referred to, wrapping the same in perforated paper, then inclosing both in a perforated envelope, sealing the envelope, and slipping that in a larger envelope with very slight perforations. In this way all went through safely so far as being stopped was concerned; but not so with the queens, for I have to report only about 33 per cent as arriving there alive, against the 66 per cent in 1891.

There were some things the past year which I can not account for. The success on the July steamer was very poor, only one out of all sent arriving alive, while of those sent on the August steamer about one-half went alive. Of those sent on the September boat, nearly all went alive; and of those sent on the October vessel, not one went alive, unless, perchance, two did which I have not heard from. Now, why the difference when all were put up alike? Again, all the queens to certain parties went alive, and other parties received all of theirs dead, from the same steamer. I am studying over these matters, but as yet no reasonable solution of the matter has been arrived at. There is a possibility that those on the October steamer were fumigated in San Francisco on account of the cholera scare; yet, if I understand friends. Root aright, some from them went through alive on that boat. Could it be possible that those from me were fumigated while others were not? It hardly seems possible.

There is one thing worthy of note, which is, that the queen that went alive to New Zealand in 1884 went in September, and nearly all went alive which were started last September; and during September, 1891. I had by far the best success. I account for this by the fact that our weather here during the month of September is of a medium temperature, while on arrival over there they have a similar state of affairs. During all the other months they either arrive over there during cool or cold weather, or else must have 3000 to 5000 miles of travel in the cold in our northern hemisphere, which we generally have during October.

Up to the year 1893 we had been restricted in our operations, owing to no law in our favor regarding the mailing of queens to Australia;

but, thanks to our friend and brother, W. S. Pender, of West Maitland, New South Wales, Australia, the laws have been revised so we shall not, in a certain sense, have to smuggle the queens through. If I make no mistake, we can now use a cage of any dimensions which shall give the best results in mailing queens, and are not obliged to be held to the dimensions formerly given in our Postal Guide. From Mr. Pender I received a cage of bees November 30. The bees were all dead, and evidently died within a day or two after mailing, as the candy was scarcely touched; but notwithstanding this I think the cage the best of any thing I have seen, and so send it along with this, asking that you, Mr. Editor, will have it illustrated, so that all who wish to make a trial of bees to foreign countries may know what it looks like.



PENDER MAILING-CAGE.

The fault that caused the bees to die, as I see it, was in the candy, which is nearly as hard as a rock. But I will let Mr. Pender tell us something about the matter, and what he expects of this cage. Oct. 28 he wrote me as follows:

Yesterday evening I mailed you a queen of no special value, as an experiment. The cage is a suggestion which I should like you to criticise in GLEANINGS, if you think there is any merit in it. You will see, no matter what position the cage may be in, the bees can get at the candy. You will also note a provisioned close chamber in the center of the cage, to which the bees are expected to retire in cold weather. Will they do it? This is the only feature in the cage I am not sure about. The candy used contains very little honey, hence very little nitrogenous matter to accumulate feces. The little honey used was brought to nearly the boiling-point, and as much powdered sugar stirred into it as possible, and then kneaded with the hands. I am going to try a candy with no honey, using a small quantity of a deliquescent substance, such as phosphoric acid, carbonate of potash, etc., in its place, to give the necessary moisture. I think this would work like a barometer. In a cold climate it would absorb moisture, and in hot weather it would dry out so much that it would prevent running. By striking a medium, candy should be made that would contain no nitrogen, and hence not cause the bees to accumulate feces. I hope the cage will be the outcome of successful mailing of queens to Australia.

Yours respectfully,

W. S. PENDER.

I have no special criticism to make. Not a bee was in the central chamber when it arrived, nor do I think they would be apt to enter it, should a cold wave strike them. My idea would be to fill this central part with candy,

having four openings, or feed-holes, to it; then by having a large candy-hole in each of the four corners there would be no danger from their ever being cut off from their provisions. Used in this way it gives promise of success above any other, according to my opinion. Geo. James, Gordon, N. S. W., Australia, under date of Sept. 30, suggested something quite similar, he having suggested the cage used with success by Bianconini in shipping to that country. It would look as if we were making advancement very rapidly in this matter of shipping queens long distances, and I look forward with much interest to the results of another summer. Will Prof. Cook, S. Corneil, and others, give us a little light along the line of making candy with powdered sugar and phosphoric acid, etc., as suggested by friend P.<sup>r</sup>. G. M. DOOLITTLE. Borodino, N. Y., Feb., 1893.

[There may be some good features in the cage illustrated; but as we view it, we regard it as too large, too expensive, and, worse than all, too frail. We greatly prefer the No. 2 cage, illustrated and described by our correspondent on page 232 of last year. It is strong; and, having four candy-holes, one at each corner, it has practically the feature of the cage above illustrated: viz., giving the bees a supply of food in several compartments, and so arranged that all are not likely to get clogged up with dead bees. We should be glad to hear from Prof. Cook and S. Corneil on the candy question. In the mean time, perhaps the following letter from Miss Wilson may be of value.]

#### A NEW BEE-CANDY.

SOMETHING THAT WILL KEEP SOFT AND MOIST, FOR QUEEN-CAGES, FOR A YEAR OR MORE: HOW TO MAKE, ETC.

Some days ago Dr. C. C. Miller sent us by mail a small tin box containing a soft moist candy, which had been made more than a year previously, and inquired what we thought of it. We were interested at once, because we had not hitherto been able to make a candy that would invariably keep soft and moist for more than six weeks and yet not run and be dauby; and even then, on account of sudden changes of the weather, the candy would become so dry as to let the bees starve, or become so dauby and messy as to kill the bees by suffocation. We thought that, if the article could be obtained, and could be made to remain soft, it would be quite an acquisition. We at once wrote to Dr. Miller, asking him where he got it, and whether he knew how it was made. After a reasonable length of time, we received a letter containing this exasperating piece of information:

Dear Ernest:—You want to know how that bee-candy was made. There are some people who are selfish enough, when they find out a good thing, to want to keep it to themselves. I don't want to be egotistical, but I really think I'm not one of that kind. In fact, I take a certain pleasure in telling things, and sometimes tell more than people want to hear. As to how that candy is made, I have no desire to keep it a secret, and would just as soon tell you as not: but the fact is, I don't know. C. C. MILLER.

Marengo, Ill., Feb. 15.

[After the doctor had led us to believe, clear

up to the last line, that he was going to tell us how to make that candy, we were—well, “mad” because he didn’t. We had about given up all hopes of ever knowing, when along came a letter from a member of Dr. Miller’s family, that gives us just the information desired.]

*Mr. Root:*—

Dr. Miller insists that I must give you the history of the sample of bee-candy he sent you. He says it’s one of the things he “don’t know.” I can tell you all I know, but am not at all sure that I can give entire satisfaction. Not long ago he was looking for something, I don’t remember what, and was rummaging through the kitchen cupboard. If there is any one thing for which Dr. Miller has decidedly *not* a talent, it is finding things. He will look in the most unlikely places, and, after becoming discouraged, will appeal to one of the female members of the household, who, likely as not, will readily find the article in some place where he has stoutly insisted there’s no use in looking, as he has searched the same place “most thoroughly.”

On this particular occasion he reached down a dish from one of the upper shelves, and said, “Say, Em, what’s this?”

I told him it was a dish of frosting that was spoiled in making, and had stood there about a year.

Instead of putting it back where he got it, and attending to his own affairs, as every properly trained man ought to do, he seemed to be particularly interested in it, and began poking his fingers into it, feeling it and tasting it. Then he asked me all sorts of questions about it, and ended up by asking me where he could find a little tin box in which to send a sample to Medina. I tried to dissuade him from it, thinking it not worth while, and telling him I didn’t care to have samples of my failures in cookery distributed broadcast. But, as is usually the case when he gets a kink in his head, he would not listen to reason, so you got the ample.

It was made in this way: One cup of granulated sugar, a very small pinch of cream of tartar, and enough water to dissolve the sugar; put on the stove, and boiled until, by trying a little of the syrup by pinching it, it would string from one finger to the other, when it is ready to take from the fire. Turn into a dish and stir or rub it with a spoon against the side of the dish until it “creams.” (You understand the syrup is clear in the first place, and it may be said to “cream” when it assumes an opaque or milky appearance.) Then add the white of one egg beaten stiff, a little at a time; beat the egg in thoroughly, and it is ready for use.

The frosting in question didn’t look quite right. I was afraid I had not boiled it quite long enough; and as I was particularly anxious to have my cake very nice I concluded not to use it, but set it to one side, intending to feed it to the bees at the proper time, and at the proper time forgot all about it, and that accounts for its standing there so long. Had it worked all right it would have hardened in about an hour. Now I have told you all I know about it.

It still stands in the dish into which I turned it—a soup-plate. There is a thin layer of syrup at the bottom: above that, the frosting or candy, or whatever you call it, is about three-fourths of an inch deep, and of a uniform consistency throughout, the same as the sample sent you.

Whether I could ever make any exactly like it again, I do not know. Whether the exact degree of boiling it had is important, I don’t know. The addition of the egg may be of some

importance. Sugar syrup properly creamed will stay soft for some time; and when it does harden it can be readily softened by the addition of a few drops of water.

Chocolate creams, with the exception of the outside coating, will remain soft for a long time. As usually made, they are simply the white of an egg beaten stiff with enough confectioner’s sugar kneaded in to make it handle well. I make them by boiling confectioner’s sugar and creaming, then adding a tablespoon of thick sweet cream, without any egg. I think they are much improved when made in this way. I feel pretty sure that glucose is used in their manufacture in the commercial article.

I don’t know, but I imagine bee-candy might be made by boiling sugar and creaming it, then adding the egg and a very little honey. I mean to experiment a little, anyhow.

EMMA WILSON.

[If we were “mad” at the doctor we entirely forgive him now for being able to recognize a good thing when he saw it. There are just a few people in this world who *know* when they have a good thing. How often it happens that valuable information and discoveries come about by mere accident! Whether this “find” of the doctor’s will prove a valuable one or not, remains to be seen; at all events, we hope that now, as the secret is out, many of the friends will put the matter to test; for if such candy can be made, and kept, it is going to prove to be a valuable acquisition. It seems, from the recipe for making, that the *egg* is that which keeps the candy soft. A small quantity of it certainly would not be hurtful to the bees, and possibly it might add much to the value of the food.

Miss Wilson alludes to cream chocolates. There, now, why didn’t somebody think of that before? They can be purchased at almost any grocery, and, so far as we can remember, they are soft and moist, and would be the *thing* for queen-cages. One of these will just about fill the candy-hole of a cage; and by slicing off the end, the bees would have the nicest kind of prepared food—that is, providing glucose is kept out of it. We shall certainly try it at our earliest opportunity. How many times it happens that bee-keepers who are not actual queen-breeders, but who, for some reason or other, desire to send a queen to a friend, have not any suitable bee-candy! but *now* they can go right to their grocery and buy a few chocolate creams. Several good recipes for making chocolate candy out of pure materials will now be in order.]

EXTRACT FROM THE REPORT OF THE LAST CONVENTION OF THE GERMAN, AUSTRIAN, AND HUNGARIAN BEE-KEEPERS.

THE DZIERRON THEORY QUESTIONED.

I inclose you an extract from the report of the annual convention of the German, Austrian, and Hungarian bee-keepers, which appeared in the *Bienen Zeitung* in full. If you deem it of interest to your readers you are at liberty to make use of it or any part of it in GLEANINGS. I have tried to select the best, and I shortened and condensed most of it considerably.

Naples, N. Y., Feb. 3.

FR. GREINER.

The 37th annual convention of the German, Austrian, and Hungarian bee-keepers met in Budapest, from the 12th to the 15th of September, 1892. Budapest is situated on the Danube, in Hungary, and is centrally located as regards the Austrian empire.

About 250 bee-keepers took part in the proceedings. Among the many was Dr. Dzierzon, now in his 83d year, the Hungarian bee-keepers honoring

the hero in apiculture by sending a delegation to escort him to Budapest.

As had been done formerly, an exhibition was connected with the convention, and it was indeed an extensive one; the features of the same being as follows:

1. Live bees; 2. Bee-hives; 3. Honey and beeswax; 4. Honey-products; 5. Tools and appliances; 6. Literature.

The convention was formally opened by the Minister of Commerce, Bela Lukacs. As the first thing on the program, Dr. Dzierzon spoke on the subject of "What is the real value of some of the latest discoveries?" He touched on but two. It will be remembered that Rev. Mr. Wurnstorf, of Goslar, discovered a way of manufacturing comb with full-depth cells. Dzierzon did not think the use of such was an advantage, he preferring comb foundation, considering the fact that the artificial comb was four times as heavy as foundation; too costly, and difficult to ship. He believed foundation answers all purposes as well or better.

2. In regard to Rev. Mr. Weygandt's advanced theory, that the excrements of the bees, when in a healthy condition, were dry and odorless, and discharged inside of the hive, Dzierzon said: "Whoever is familiar with the nature of the bee also knows that bees void an offensive-smelling brownish fluid, and we bee-keepers are glad when our bees are offered the opportunity to void in the spring, etc."

Next, Mr. Vogel introduced the subject: "Which destroys the surplus queen-cells—bees or queens?" and spoke at length. The gist of the matter was: Under certain circumstances, the working bees destroy the surplus cells; usually the queen does this, and the workers help along; he emphasized the idea that the workers and not the queen were the reigning element in the hive.

Next, W. Guenther presents his ideas regarding the matter of: "Is it best to allow the queen full sway inside of the hive, or would it be advisable in not to have the honey-apartment accessible to the queen?" Guenther is in favor of using the excluding metal between the brood and honey apartments.

A most interesting topic was given consideration by Metzger, of Budapest, concerning the function of the spermatheca of the queen. Perhaps it would be well to give this lecture a little more in detail. Mr. Metzger said:

"The spermatheca of the queen-bee has been supposed to be a receptacle for the seminal fluid only, performing the act of fertilizing the passing eggs mechanically. A lifeless pocket, or sack, might possibly do this; but I doubted its being so, especially when considering the size of the receptacle in proportion to the size and number of spermatozoa it is expected to contain. After the closest examination and calculation, I could never make it seem possible that the spermatheca contained more than half a million ripe sperm-cells at one time. Still, we know one queen may lay from one to two millions of eggs, and sometimes as many as ten sperm-cells enter one egg in fertilizing it. I could also not make it seem likely that the sperm transmitted from the drone-cells should retain life and vigor for a number of years. Therefore I took it upon me to make microscopic examinations of the spermatheca of different queens at different times or seasons; and I found that the spermatheca of a virgin queen contains a transparent opalizing fluid, with floating cells, the same being seedless. A fertile queen has in her spermatheca a milky-white fluid with spermatozoa, or finished sperm-cells, and also unfinished cells with seeds, the same being the spermatozoa in process of development."

Mr. Metzger makes here a distinction between finished (or ripe) sperm-cells, and unfinished (or growing) cells. Such a distinction has not been made before by any one, to my knowledge. Even Prof. Cook speaks of the sperm-cells in a general way only. Mr. Metzger adds:

"Furthermore, I find that the contents of a queen's spermatheca, during the season of her greatest activity, is a thin fluid, and, under the microscope, the ripe sperm-cells immediately show signs of life, while during that part of the season when a queen is not fully employed, the contents of the spermatheca are a thick fluid; and the ripe sperm-cells show life only when the contents are first somewhat diluted with weak salt water. During the winter season, the contents of the fertile queen's spermatheca are a mass of sperm-cells resembling felt; and, even after adding salt water,

as before, they could not be made to show any signs of life. Fertile queens always have unfinished cells with seeds present in the spermatheca. After due consideration of the foregoing, I conclude that the spermatheca is a gland, producing cells, its functions being similar to those of the poison-gland, ovaries, pulvilli, or the testicles of the drone. The latter also produce cells with seeds which lengthen out at both ends until they appear as the finished hair-like sperm-cells, or spermatozoa. The increase of the cells can go on only when sufficiently surrounded by fluid. Since the spermatheca of the queen, after once having come in contact with the drone, continues to produce cells with seeds, I believe it is reasonable to suppose that these cells develop into ripe sperm-cells, according as they are needed. The queen takes little nourishment in winter, and therefore the spermatheca is nearly dry and dead. The more food the queen takes, the more fluid her spermatheca gathers, and the more cells are produced, which develop into the ripe sperm-cells."

Long-continued applause followed these words, and gave proof that Mr. Metzger's work was valued.

Of other matters, I will only mention G. Lichtenthaler's interesting talk on "Formic acid as an antiseptic agent in the bee-hive, especially in its relation to foul brood." He tried to show that formic acid preserves the general health of a colony. He found that newly hatched bees had no traces of acid in the poison-sac; older bees had more and field bees a full amount. He thus showed why it was that the sting of a young bee is so much more harmless than that of an old bee. By robbing a colony of its flying bees, the best formic-acid producers, we prepare, so he claimed, a more fertile field for disease and fungus growth. He observed that bees, when working on buckwheat, produced the greatest amount of formic acid, and he deemed the buckwheat season the most favorable time for subduing foul brood.

The meeting adjourned to meet again in 1893, in Heidelberg.

## REPORT OF THE BEE-KEEPERS' STATE CONVENTION, AT LOS ANGELES, CAL.

### A REPORT BY THE RAMBLER.

The bee-keepers of California came up with smiling faces to the convention in Los Angeles on the 7th and 8th of Feb.; and, although there were dripping skies a portion of the time, the smiles held out. Although rain in February does not certainly presage a good honey-yield, it is a straw that points that way, and straws of that nature are eagerly grasped for by bee-keepers.

Pres. McIntyre and wife were among the first to arrive; and the world and the raging Sespe seemed to have used them well during the past year, and their greetings were cordial to all.

The gavel rapped the buzzing crowd to order at 10 A.M. on Tuesday.

The two hours before noon were nearly all taken up with reports and routine business. This out of the way, and lunch attended to, all were ready for the afternoon meeting at 1:30. Meanwhile the old Southern California association had met at 1 o'clock, and, after a few resolutions, remarks, etc., the few members of that organization who were present voted unanimously to merge themselves into the State association. The latter, when called to order, accepted the disbanded organization, and enrolled their names all in good standing upon their books. There may be a few who were not present who may be dissatisfied with the order of things; but the State organization has upon its banner the words, "With malice toward none, and charity for all," and, by its deeds, hopes to advance the cause of apiculture on the whole Pacific coast.

President McIntyre's annual address reviewed the past year, dwelt upon adulteration, and

advised every bee-keeper to join the Bee-keepers' Union, and strengthen it for a good work. In speaking of the exhibits at the World's Fair, he stated that space had been secured for an exhibit of the honey yield of 1893, and he hoped bee-keepers would respond liberally, and make a fine display; and he himself or the secretary would receive all offers of exhibits, and see that they were collected and forwarded. After the address, several donated 50 and 100 lb. lots. This honey will be delivered in Chicago free of charge, and in original packages. It will then be put up in fancy glass jars, and at the close of the exhibition it will be sold or delivered to other parties as may be desired.

The next upon the programme was a paper upon new plans for marketing honey, by J. H. Martin, which was followed by an interesting discussion. It is evident, from the signs of the times, that a radical change is needed in the marketing of fruits and honey, and a more even distribution of them over the country.

Prof. C. W. Woodworth, entomologist from the State University, made a short address, and afterward answered many questions. The University was ready to meet the bee-keepers more than half way in the endeavor to advance the cause; and if nothing is done, it will clearly be the fault of the bee-keepers themselves. At the close of the address a vote of thanks was extended to Prof. W. He was also elected an honorary member of the association.

"Chemical Composition of Honey," by Mr. George W. Brodbeck, closed the afternoon program.

In the evening Mr. Arundell's paper, "Economy in Bee-keeping," brought out a long discussion. Many found it economy to requeen their apiaries after the honey season. There is usually a large loss of colonies in the commencement of a honey season, from the loss of queens, and sometimes this amounts to as much as the ordinary winter losses in the East; and by carefully requeening, the loss, in a great measure, would be avoided.

The discussion drifted into the hive question, and a few expressed themselves as favorable to a shallow hive. The Hoffman frame had not been tested, but will probably be used more or less during the coming season.

At the close of the evening session there was a general hand-shake, and Mrs. McIntyre delighted the members by sitting down to the piano in the room and giving a few bee-keepers' songs appropriate to the occasion, which were heartily enjoyed and enthusiastically applauded.

#### SECOND DAY.

The bee-keepers began to assemble again at an early hour. The first business was to memorize Congress, through our representatives, to push forward the Paddock pure-food bill; also a resolution was introduced, asking the Legislature to aid the association in the sum of \$300, to be used in the publication of the proceedings, and for collecting statistics.

Mr. W. A. Pryal was instructed to draw up such an act and present it to the proper committee at the State Capitol at Sacramento, soon.

Mr. H. E. Wilder read an interesting essay upon birds that are injurious to bees and fruit. Mr. R. Touchton followed with a paper upon bees and fruit. This brought out many valuable points, where birds are a great damage to apricots and peaches, in their propensity to prey upon the laden bees: but the greatest damage is in the destruction of the swelling buds, not only destroying the prospective nectar-laden blossom, but the fruit as well. The only remedy is the shot-gun, which is freely used by many orchardists.

The subject of adulteration came up several times, and was thoroughly denounced. There was regret expressed that Prof. Cook had lent his hand favorably to the sugar-honey discussion. California bee-keepers have but cold comfort for that plan. During the discussion of these vital points to bee-keepers, Mr. Brodbeck introduced the following resolution, which passed unanimously:

"Resolved, That the California State Bee-keepers' Association, in convention assembled, express by a vote of thanks their appreciation of the interest displayed by GLEANINGS IN BEE CULTURE and the *American Bee Journal* in their determined opposition to the adulteration of honey in every shape and form that has thus far been presented."

In a further discussion of the World's Fair exhibits, it was resolved that we recommend to the State World's Fair Commission that Mr. W. A. Pryal be a suitable person to represent the interests of bee keepers at the World's Fair, and install the exhibit. Several bee-keepers looked upon this as quite appropriate, for Mr. Pryal is a native Californian.

At the opening of the afternoon session, the following officers were elected:

J. F. McIntyre	re-elected President.
Geo. W. Brodbeck,	V. P. for Los Angeles Co.
J. W. King,	" Orange "
M. H. Mendleson,	" Ventura "
H. Trickey,	" Inyo "
C. C. Thomas,	" San Diego "
F. H. Hunt,	" San Bernardino "
W. A. Pryal,	" Alameda "
J. C. McCubbin,	" Fresno "
G. B. Woodbury,	Treasurer.
J. H. Martin,	re-elected Secretary.
Executive Committee,	L. T. Rowley, A. Barnett.

The final session closed with a paper by L. T. Rowley, upon the honey-plants of Southern California, and a paper on the San Francisco honey markets, by Wm. Sty'an.

Upon various motions the secretary was instructed to correspond with manufacturers of cans, and get their lowest rates for enough cans for the entire association, and to inform the association of the same by postal card; also to correspond with all of the leading dealers in San Francisco and the East, and get best offers, and to inform the members by postal card; also to correspond in relation to supplies in carload lots from leading Eastern dealers, and to inform the members by postal card; also to correspond with the lady managers of the World's Fair exhibits for Southern California in relation to the exhibition of honey-plants. Upon this point the secretary kicked, and the meeting adjourned in confusion. The next meeting will be held in Los Angeles, upon a call from the executive committee.

There were but few bee-keepers' supplies upon exhibition. Mr. C. W. Metcalf, of Santa Paula, had a very ingeniously constructed automatic reversible extractor upon exhibition. The Stewart honey-boxes were also on exhibition. Mr. Brodbeck exhibited a new patented smoker, which attracted much attention. A carload of supplies from Medina, O., arrived while the convention was in session, and was partly unpacked in the store of G. G. Wickson, where many embraced the opportunity of looking the goods over. The Cowan honey-extractor seemed to be the center of attraction. All expressed themselves as astonished at the amount of bee-traps that can be stored into one car.

When the bee-keepers bade each other farewell they all felt that a very profitable session of the State association had been held.

JOHN H. MARTIN, Sec.

## JAKE SMITH'S LETTERS.

## THE PALLUS BEE-HIVE.



JAKE SMITH.

was a 4-handed farmer, always up with the times, and how I kep so menny bees, and he wanted to show me the latest improvement in bees.

It was a pallus to keep them in. You jist put a common scap, with a swarm of bees in, up on top of the pallus, and then thale bild down and fill up the pallus. Then they is a door to it, where you can open the door & jist cut out a peace of hunny enny time. You see that's reel handy for the wimmin fokes, especially when cumpenny cumms, & they can take a plate and a knife and git all they want with hot biskit for supper.

*A. I. Gleenings —*  
dear Sir: — I herd from you threw a man whitch cum to our house. He told me how you was a grate bee-man, and told me to right and tell you about our bee-pallus and yude print it. Weave had the pallus ever sints last spring. The way of it was this. A man cum along with the pallus onto his waggon, and sed how he hear I

he thought one of the animals in his team was sum tired out, and mabee he better stop. He woodent miss having the pallus git to the exabishen for fifty (\$50) dollars, but if his team give out it mite hender him more than to stop. So he stopt.

He was reel soshable like, and toald me lots about bees and about the pallus. He sed how a man the name of Bramler hed a pallus, & I disremember rightly now jist how much hunny he got from it, but tenny rate he got from that pallus morn I ever git from all the swarms I ever took up enny year. 1 trubble with bees is, that the worms eats them up. So the pallus has a slantin bottom that rolls out the worms.

The price of the pallus with a farm rite was 25 dollars. In the mornin he was afeerd the bad roads was too much for that 1 animal in his team, and so he diddnt know but he'd hev to giv up gitten the pallus to the exabishen. He hated to, but he hed to; & seein how it was, and how he coodent go no furder on account of the animill, he'd make me a discount onto the price; and as he wanted to interjuice the pallus into the naberhood, he'd make a nuther redudction, & I got the pallus for 15\$, and he sed I coodent make ten dollars no easier, and he was a reel nice man. That's how I cum to git the pallus. It wuzzent him that toald me to right to you, but a nuther man that was here. He sed his name was do littel. He diddnt seem to kno a powerful sight about bees, but he took a celebrated interest into that pallus, and sed youde like to hear about it.

Respectably yours, JAKE SMITH.

P. S.—Pleas send me a paper when you print it.



JAKE AND THE PATENT-RIGHT MAN.

He was a reel nice man, with a shiny hat & good close. He was sum kind of a agent for the pallus cumpenny that made the palluses, and was a taking it to sum big exabishen. He was verry polite to the gals, and they was considerable took with him. He knode all about bees, and diddnt seem a bit stuck up, but jist tocked to me as common as you pleas. So I ast him to stay all nite. Along at first he diddnt see how he cood; but I irged him, and at last

## RECOLLECTIONS AND EXPERIENCES.

SOMETHING FROM AN OLD BEE-EDITOR;  
HOW HE BEGAN BEE-KEEPING, ETC.

In an article that appeared Jan. 15, 1892, in GLEANINGS, we promised to tell your readers something about our methods and how we apply the Hoffman frame. Just after we penned that article, friend Root desired us to write up Mr. Hoffman's place and methods. We complied, and the season advanced until we did not again get an opportunity.

The writer, a boy of sixteen, began bee-keeping in April, 1866—a veritable novice, fully enthused by reading N. H. & H. A. King's "Bee-keepers' Text-book." It is needless to tell you that all obtainable books on bee-culture were read and re-read, and articles in periodicals on the subject were carefully searched out. Unfortunately, much that was, and frequently now is, written for the papers is worse than useless, and the inexperienced can not always secure the wheat and reject the chaff.

We soon made the acquaintance of that grand old man, Moses Quinby, than whom few men labored more unselfishly or gave more freely of their carefully gathered experience, to advance the true interests of scientific and practical bee-keeping. Indeed, his door was open and his table always spread for all who saw fit to visit him, and the number was legion.

We purchased a black colony in a box-hive. We secured H. A. King's American hives, into one of which the only swarm, which came rather late, was hived. Then on the seventh or eighth day we transferred the colony from the

box hive into frames. Well do we remember the trepidation, anxiety, and real labor connected with that transfer. Indeed, it was a great undertaking, for the hive had several cross-sticks, and the combs were heavy with honey.

Friend Root tells us that most bee-keepers change hives about once in ten years. The rapid strides in advancement make, or did make, it necessary, and we were no exception, for we soon discarded the King hives and adopted the old Quinby hive and frames, described in "Quinby's Mysteries of Bee-keeping," edition of 1866, pp. 68 to 70. This hive held eight frames, and had a honey-board, or board to cover the brood-chamber, one-fourth inch above the frames; and how these boards used to snap loose in cold weather, and start up a lively row with hybrid bees, made vicious by the use of tobacco smoke, applied through a tin fumigator held in the teeth! Quite often the dampness of the breath extinguished the fire, and then how we did "catch it"!

During the second season we purchased a fine Italian queen of Mr. Quinby, and have never been without Italians since. Indeed, we doubt whether on this globe a better bee exists.

From 1866 to 1870, bees seemed to winter very easily, either in cellars or on summer stands. Strangely, during that period we had little or no loss.

Reading an article recently by friend Doolittle, entitled "Wintering Under Snow," leads us to narrate an experience we had during the period named. We had bought a dozen or more colonies in box hives, and our bees were on the King frames. We packed the caps with hay or straw, and placed the hives on the east side of a high stone wall. Moderate weather prevailed, but no snow until January 1. On that day came a heavy fall, and this soon drifted the hives out of sight. We then cut great blocks of snow and placed them upon the wall, thus increasing the bank, until all the hives were under eight to ten feet of snow. Many were sure the bees would smother; but Mr. Quinby said they would not, and we relied upon his statement. Toward the last of March the weather grew warm, and we had some fear that water might settle around the hives. We accordingly shoveled them out. The snow had thawed away from six to fifteen inches all around the hives, each standing in a little cavity. When the first one was uncovered we listened for signs of life, but could hear none. The hive being inverted, we saw bees in the most dormant state we ever beheld; indeed, they were about torpid, and it took nearly an hour to get them to flying briskly. This condition existed with all those bees, and they came out in splendid condition.

We never again tried this method, for the time of arrival and amount of snow are too uncertain to calculate with any surety upon results.

Time brought changes. We visited Mr. Quinby quite often; we saw his new standing frames in large cases, called non-swarming hives. We never could learn to like those frames, so planned as to use the large cases for side and top boxing with the old-style frames. We succeeded tolerably, and for some years we selected sixteen of our best colonies and placed them in these cases, and made a yearly average of one hundred pounds of box honey per colony, although invariably one or more of the number would get such a swarming fever that they produced little or no honey.

About that time the State Agricultural Society offered a prize of twenty dollars to the largest yield of box honey produced by one colony, and we secured this prize for two seasons;

one year producing 205 pounds in four-pound boxes.

On one occasion, before the invention of comb foundation, we placed a strong colony in a hive four feet long. This family built about twenty sheets of comb and gave 317 pounds of extracted honey, besides enough left in to divide and winter two colonies.

In those days white clover gave large yields; now, with pastures white with blossoms, no honey is gathered. Melilot clover was then unknown; now the Erie Canal, and the rail-ways and highways are lined with it.

After 1870 the mortality during winter and spring was enormous, and we had our share of losses. This deterred us from undertaking the business on a large scale.

On more than one occasion we inserted an extra pair of followers and turned the seven or eight brood-frames a quarter way around, providing a covered passage from the brood-nest to the outer air, and packed four sides and the tops with chaff. This plan seldom worked well, especially if the snow accumulated around the hives, and was sure to prove fatal if the hives were buried with snow and subsequently thawed out. We then learned that, with such warm packing, the hives and entrances should at all times be uncovered. Even in cold days, if the hives were surrounded with snow to the roof, and the roof exposed to a strong sun, the bees would get very uneasy.

Thus for some years we had variations of success and failure—the former in summer and the latter in winter. With moderately strong colonies we never failed to get large crops in ordinary seasons; but often considerable of the summer passed before colonies were populous enough to accomplish much.

Just prior to 1870, the Northeastern Bee-keepers' Association was organized, and the writer was soon and for several years made secretary. The subject of wintering was yearly brought up, and developed animated and lengthy discussions with deep interest.

Julius Hoffman moved to Fort Plain, only about four miles from our place, in 1873, and we visited him toward the latter part of that season. Never can we forget our surprise and admiration at the wonderful progress he had made and the rapidity with which he manipulated his colonies. After that, at frequent intervals we visited his place. We soon became convinced that the frames he used possessed advantages that we could poorly afford to forego. We accordingly made several hundred frames, Hoffman style, the size of the old Quinby, and transferred our combs. As we already used a side-opening hive we thus secured the advantages of rapid handling.

The interest in bee-keeping was now becoming general and animated, and we soon began to advertise and grow large numbers of Italian queens for the market. In this latitude this occupation is attended with much labor and expense, as the winters are long and severe, and the queen-rearing season short. A large correspondence led to many inquiries for other goods, and finally we built a factory and began to supply various goods used in the apiary. The radical and frequent changes in hives and fixtures made it hazardous to manufacture stock ahead; thus, during the busy season we were often sadly overworked. A couple of rather unsuccessful ventures, induced by lack of employment during the dull months, led to discouragement, and finally a railroad was surveyed through the buildings and premises, and we were constrained to sell out the apiary and bee-keepers' supply business, together with the monthly *Bee-keepers' Exchange*, to Houck & Peet, who assumed control late in 1881. The

short career and sudden death of Theodore Houck compelled us to take back many of the goods in order to liquidate the estate and secure a final settlement.

For nearly one year we were entirely without bees; but the transition was radical, and our love for the pets again asserted itself.

Having now had considerable experience, a large contact with practical bee-keepers, and a thorough knowledge of the many hives in use, we concluded that we should be able to choose a good, practical, simple hive, adapted to the needs of bees and the requirements of box and extracted honey. After mature study we made and adopted the hive that we now have; and let us assure your readers that, although we have used it more than ten years, we must see many and positive improvements in a hive to induce us to change again. In our next we hope to describe our hive, and give reasons for its shape, construction, and management.

J. H. NELLIS.

*Continued.*

### BEE-ESCAPES.

#### A NEW IDEA OF THEIR MANNER OF WORKING.

I find that no one in GLEANINGS has yet given the true principle upon which the bee-escape is supposed to work. The super from which it is desired to rid the bees being shut off from the heat of the hive, it would seem that, when the weather got cool, the bees would go down much faster; but such is not the fact. It may then take days instead of hours for the sections to be cleared. The true reason is, that, when the bees find they are separated from the queen, they get panicky, and leave forthwith in pursuit of the queen. It is a mistake to suppose that the ragged edge of the tin or paper prevents the bees from going back into the sections; but the fact is, the cause that induced them to leave prevents them from going back. Now for the proof: You will find inclosed a piece of tin. This was formed over a 20-penny wire nail. This I tack over a hole on the under side of a board. This is my bee-escape. It will be seen that the bees can go one way as well as the other. My section-cases all have glass. I put on the escapes in the morning, so I could watch them, which I did closely. Some will miss the queen very soon, and the sections will be cleared in two or three hours. Others will remain quiet for several hours; but when they discover their isolated position they will be seen in a perfect panic, which they keep up until the last bee leaves the sections. Among others I put sections, containing about 60 lbs. of honey, over a board fixed with three of these tins. The next morning when I took off my sections I found bees enough to make a fair swarm, clustered all over the board. There were many bees deep over the tins. They had commenced comb-building; but not a bee had gone into the sections. I have used these tins through the past season with unvarying results. In no case did the bees go back into the sections.

I believe that a zinc queen-excluder, if placed on an empty section-holder, and the zinc all covered up but a narrow strip, would make a good bee-escape.

WILLIAM HALLEY.  
Rockton, Ill., Jan. 23.

[It is very possible that you may be right, and we hope those of our readers who have made observations in regard to the actual workings of the bee-escape will let us know what they think about it. Another summer shall not go by without our fixing up an ob-

servatory hive, to watch the actual operation of the various bee-escapes. However, even if your point is true, would it not be better to have something like the Porter, so the bees will actually be prevented from going back, even if they should desire to do so? The Porters, who have conducted a long series of experiments along this line, will doubtless be able to give us some information.]

### SOME BIG HONEY YIELDS, BY AN EXTENSIVE BEE-KEEPER.

FRANK M'NAY, OF MAUSTON, WIS., A BEE-KEEPER WHO PRODUCES TONS AND TONS OF EXTRACTED HONEY, TELLS US SOME-THING ABOUT THE AVERAGE YIELD OF HIS LOCALITY.

*Ed. Gleanings:*—One year ago I was enjoying a long-desired visit at the "Home of the Honey-bees;" and while I recall the pleasant visit, I also remember a long-neglected promise to let you "hear from us." But as I have not only had the care of seven apiaries, but have also done seven thousand miles of rambling during the year 1892, it has left little time to spare. Although you may think, by the report I sent you for statistics about August first, that we have had little to do, we had a very good fall crop, and I secured about nine tons of excellent honey, all stored after the first of August.

We often have a failure of a part of the honey resources of Wisconsin; but after an experience of 17 years I can say that I have never yet had a failure for the entire season; and it is the never-failing crop that counts up on the grand total, as can be seen by placing my own record for the past 16 years with that of the famous Sespe apiary, of California, which, although it shows some marvelously large yields, yet the total average for 16 years is only about 73 pounds, mostly extracted, I suppose (see GLEANINGS, page 774, 1891), while my own average, as shown by inclosed table, is 93 pounds, a large per cent of it comb honey in pound sections; and lest some may suppose this average to be only a few hives, I will say the number has averaged about the same as the Sespe apiary, and that my crop for the past ten years has not been less than 10,000 pounds. My best crop was 23 tons, and best gain of one colony 31 pounds in one day, and 335 pounds in one season.

These results were from an ordinary colony that had not been helped in any way from other colonies.

Average per colony for 16 years.

Year.	Sespe apiary, California. Pounds.	McNay's apiaries, Wisconsin. Pounds.	Per cent comb.
1876	200	75	100
1877	000	125	50
1878	275	20	00
1879	000	50	60
1880	175	125	50
1881	20	150	100
1882	15	80	75
1883	40	105	40
1884	100	93	50
1885	000	81	55
1886	175	143	40
1887	10	59	45
1888	50	114	12
1889	36	148	7
1890	60	44	00
1891	21	86	00
Total average, 73 lbs. in 16 years.		Total average, 93 lbs. in 16 years.	

## THE COWAN EXTRACTOR.

I now wish to say a few words in regard to the Cowan extractor, as my experience in extracting 9 tons has brought to notice one feature that I did not notice on first trial. We had used it but a few times when one morning, on starting for an out-apriary, I was surprised to see my assistant (who turns the machines) putting the Cowan into his buggy. I asked, "Why are you taking that, as there is an extractor there?" He replied that the other machine always daubed his clothes, as if they were sprayed with honey, but that he could use the Cowan and keep clean; and I soon noticed that he was right; and I feel sure that any one who has had trouble by this will appreciate the Cowan.

FRANK McNAY.

Mauton, Wis., Feb. 10.

[Something over a year ago Mr. McNay called at the Home of the Honey-bees. At the time, we were "down sick with the earache over home." The pain was about as much as we could bear without groaning; but hearing that friend McNay was over at the shop we sent over word, asking him to make us a call. We enjoyed quite a pleasant visit with him, despite the pain. Mr. McNay gave us quite an interesting account of how he manages bees on such an extensive scale, and we asked him to favor us with an article occasionally, and the above is the first one of the series, and we hope it will not be the last one.]

## BALDENSPERGER'S LETTER.

SAMSON, AND THE HONEY FROM THE LION'S CARCASS; THAT MAMMOTH HONEY-EXTRACTOR, ETC.

In many parts of Africa the smoking of tobacco is prohibited by order of the Mohammedan Sultan, Il Moolah Hassan, of Marocco; and there are some tribes that will not even intermarry with those who smoke. In Abyssinia the Christian kings forbid tobacco altogether. King Menelek cuts off the noses, lips, and hands of such of his subjects as use tobacco again; but in the south of Algiers lives a tribe of Arabs, the Mozabites, or Beni-M'zab, in seven cities. They differ somewhat from other Mohammedans, particularly in the fact that they do not adore all saints; and, contrary to Arabic custom, they drink no coffee and never smoke tobacco. Some of them do, though, when they leave their southern republic and come north. They are a very commercial people, and at Algiers they are known as the most straightforward business men, in consequence of their abstinence from strong drink. Honey comes in as a substitute; and it is for that reason that they buy thousands of pounds of it, which they send off to their dry homes. In order to remain in their community they are obliged to go home once in a while. They never have any luxury whatever about them; and, though very wealthy, they go about in coarse cloth, and are called "Muchew" by the natives, which means "small one." They are very well versed in their history; but the Mohammedans proper hate them and call them the "Fifth ones," as they do not belong to any of the four recognized sects of Islam—Malki, Hanuafi, Shafi, and Hanbali.

On page 815, Nov. 1, the proof-reader suggests that flies, etc., can not develop in arid climates like Arizona and Palestine, as is shown in the case of the carcass of the lion. Now, Palestine, though very hot, is just the place to develop those very troublesome flies; and the identical rock of Etham, where Samson was, is full of

caves where the flocks resort in the spring of the year; and during the day time the women churn the milk and dry the cheese in the sun. Such places are literally filled with flies. And, again, the road Samson took, according to the 14th chapter of Judges, is well known to me. The new railway, from Jaffa to Jerusalem, crosses that road. However, last year we often went that way. Eshtao, now Eshna'et Zora, or Sar'a, have large apiaries; and the way to Tibnah, the Bible Timnath, is full of springs and damp swamps, where all kinds of mosquitoes and other vermin thrive; and bees, also, do well, in consequence of the luxuriant vegetation and plenty of water. The carcass of the lion, which Samson had killed some time before, must have been thrown beside a colony of bees already established there in the rock or behind a wall, and Samson went to look at the carcass in the day time and found the bees flying in and out, so he took some honey. As a matter of course, the fact that honey was already found in the colony of bees proves that the colony had been longer there than the dead beast. Then, again, in chapter 13, 7th verse, Samson's mother seems to have accepted the oath for Samson not to eat any unclean thing. Samson, a Nazarite, would have disdained honey from the carcass itself; and his parents, too, ate of it. It was probably the case with the language then as it is now—the honey was *near* the carcass, and the writer puts it "the heart of the carcass," meaning thereby that it was close by. Perhaps the carcass was even thrown upon the rock, and the bees had to seek their way through the next morning. Panthers were still found around there till recently; but the noise of the railway has driven away those felines from the hitherto abandoned mountain-gorges. Carcasses never dry up, but decay. The skeleton alone remains. Numerous jackals do away with dead cattle in a short time.

That mammoth extractor, p. 835, Nov. 15, is, of course, unique, but I do not suppose it will extend very far beyond Cuba, unless such immense honey-fields are found elsewhere. An extractor holding four frames is quite large enough to throw out hundreds of pounds a day.

I did not think that people of the editor's age would begin "wheeling." Perhaps it may become more general; but just now the prices are a good deal too high.

Mr. S. F. Trego's bees, I suppose, have been greatly frightened by the six kicks. That is why, I presume, they did not sting. Why should they have acted like flies, with such rough treatment? It can be accounted for only by their great weakness. A double-story hive full of bees would not act so. Any race would be quick at stinging.

Page 882, your proof-reader, I think, is quite right. Keep the romantic names. They tell very well the history of bygone days. In the old Bible lands many old names still exist, such as Beni-Barak, Jehud, etc., existing before Joshua took those cities. Then, again, many cities changed their names under the different nations successively governing Palestine. Do not such names tell us of the antiquity of the places, and, at the same time, to a great extent help to constitute written history, though incomplete? The story of Samson, above alluded to, shows also how useful it is to have kept the very same names. Some names, too, remind us of the Roman occupancy; as, Colonia, Castle, Cesarea, etc.; while others recall the Crusades, such as Sinjal, a corruption of St. Gilles; Wallage, a corruption of Village; St. Jean d'Acre, etc. Also the Greek domination has left names from that language. Thus, the old Sichem was changed into Neapolis (new city) by the Greek rulers, and now retains that name under the

Arabic form of Nablous—a very flourishing central town.

Mr. W. Grahame, p. 917, says, "A queen must be fertilized within 21 days, else she will be barren." I have 15 per cent fertilized between the 21st and 30th day, giving, excepting one, the most excellent results as to prolificness, and, in consequence, furnishing hives crammed full of bees with plenty of surplus honey.

PH. J. BALDENSPERGER.

Nice, France, Jan. 10.

### BEE-PARALYSIS.

J. A. GOLDEN ANSWERS QUESTIONS RELATING TO THE ATTACK ON HIS BEES.

In GLEANINGS of Feb. 1, page 93, I see that the salt cure for bee paralysis is challenged. Permit me to say, that, in my article on page 888, I expressed a question in the following words: "If paralysis it was; who can tell?" It appears that friend Bartow has been led to believe that poison was the cause, and proposes certain questions for consideration, which I shall try to answer. His first question is:

"Might not the bees have been poisoned by visiting fruit-trees that had been sprayed?"

My answer is, I think not, because there has not been, to my personal knowledge, or from inquiry, a single tree in all this section of country that has been sprayed with poison of any kind; but if poisoned, it came from some other source; and the very first thing I thought of on that Sunday morning, when I saw the bees skipping out and dying, was poison; and if that was the cause, then bees poisoned act just as bees do that have paralysis. How do bees act when poisoned, anyhow? I can not think any one would purposely poison the honey-bee. Then, again, if poisoned, the same thing has been occurring all around for the past four or five years, but in a lighter form. I can not think the bees were poisoned.

Again, he says, "Might not the cure of Mr. Golden have been a success on account of less poison?"

If friend Bartow implies by this that my bees had poison in a mild form, he surely would have thought differently could he have seen those bees march out and expire.

Again, he asks, "Is salt an antidote for mild poison?"

We answer, Yes, for certain kinds; and we know that salt allays fever, itchings, reduces swellings, purifies and preserves, and, in our observation in the study of bee paralysis, I feel satisfied that the bee becomes feverish, producing an itching sensation, thus causing the hair to be easily withdrawn; finally the swelling of the intestines, resulting in death. I therefore firmly believe that ninety-nine out of every hundred bees in the first stage of the disease can be cured by a proper use of salt; and also quite a good share when in the second stage, or in the hairless condition; but when bees enter the third, or swelling stage, death is certain to follow.

In answer to his last question, I would say that bees usually go out of the hive to die during warm weather, but invariably die in the hive during the colder season.

#### SYMPOTMS OF BEE PARALYSIS.

In my experience and study of bee paralysis, I find that the first symptoms of the disease are first noticeable, so far as we have been able to judge, by the guard-bees at the entrances attacking the diseased sisters with a hustling movement as they go and come; and the diseased bee, in this stage, seems to enjoy this kind of

treatment; and this indicates, to my mind, that the bee is feverish—a condition that produces an itching sensation, also causing the hair to loosen, and to be easily extracted by the bees in the hustling movement, as above stated. I also find that, when bees reach the second stage, or hairless condition, the guard-bees are more determined to drag them from the hive than at any other time. Further observations teach us that, as soon as the bee begins to bloat, she immediately leaves the hive and soon expires.

I have never found more than one queen that showed any symptoms of the disease, and in this case I spent much time with a large magnifying-glass watching the bees taking the hairs from her body until she became hairless, and resembled a black wasp. Jan. 26, 1893, she still reigned over a strong colony of beautiful bees, and can be seen during the coming season, should she survive the winter.

#### HOW TO CURE.

In conclusion I want to say to all who have or may have bee paralysis among their bees, try one or two colonies thus: As soon as the bees begin to fly freely, make a strong brine and thoroughly wet the bottom-boards of these hives once a week, so that, when they dry, they will look frosty; also freely spray the combs and brood with a solution of salt water that you can taste quite a little salty (not strong), once a week, during the season, then report the result; and if you don't forget to apply the remedy, I am sure your report will be in favor of salt. I think the time is near at hand, if the disease is not checked, when apiarists will have cause to look for other occupations. J. A. GOLDEN.

Reinerville, O., Feb. 8.

[Mr. Golden describes exactly the disease that visits our apiary occasionally; but it is strange that it has never broken out in our yards in such virulence as reported by Mr. Golden on page 888, Dec. 1, last year. We always (except at out-yards) keep down the grass at the entrances with salt. After every rain, the bees probably get a little of this salt. At our out-yards it has been a noticeable fact that we have had more cases of this bee paralysis. Salt is a mild antiseptic, and it seems probable that it may operate as a check if not an actual cure.]

### HEADS OF GRAIN

FROM DIFFERENT FIELDS.

BEE-KEEPING DESCRIBED FOR THE GREAT OUT-SIDE WORLD.

One of our correspondents sends us the following, which he says was clipped from the Chicago World:

KEEPS BEES IN HER BEDROOM; A STATEN ISLAND GIRL WHO FINDS THE INDUSTRIOUS INSECTS QUIET COMPANIONS.

There is a girl in Staten Island, N. Y., who has kept a hive of bees in her bedroom during the winter. She recently said that they were the most unobjectionable of companions. They are quiet, orderly, and attend strictly to their own affairs. When the warm weather comes they will be set outdoors, where there are beds of mignonette and other sweet-scented flowers, which the bees fully understand are planted for their especial use. This hive of bees is the nucleus of her contemplated bee-farm. Last summer they supplied her weekly with 36 lbs. of honey.

For each pound of honey she received 30 cents. The profits of bee-keeping are great, the cost small. The labor of honey-raising has been materially lessened for the bees by modern improvements, and

tney seem proportionately grateful. The bees no longer make their own cells, which are produced by machinery out of wax. These artificial cells are placed in the hive, and the bees seem to be glad to get rid of the labor of making them. Immediately they get to honey-making. This business they conduct alone. When the cells are full the hive must be watched from without, lest the bees begin sealing them up, which they do in order to lay up their winter's food.

To guard against this, additional cells are put on top of the hive, called supers. In these the bees deposit their extra store, and this is reserved for their winter outfit. When the bees begin to seal the cells, the box is removed, a small machine is put inside, which is set vibrating, and this empties the cells of their honey, which is drawn off, and the cells, having been drained, are put back to be refilled. This young woman says that her bees know her, and are as tame to her hand as doves. The occupation of honey-making has proved pleasurable and profitable.

[No doubt there will be many a broad smile as our readers look over the above, which, very likely, is destined to go the rounds of the newspapers. If everybody takes down the statement about 36 lbs. of honey per week, at 30 cts. a pound, there will probably be a sudden stampede for bee-books, journals, and bee-supplies. Let me bid these friends go slow, however. Instead of 36 lbs. of honey per week, and not much work either, a great many of our veterans would be glad to get 36 lbs. on an average during the whole season. In fact, I know of several who have not done even as well as that, and they have worked hard too. The plan of putting a "vibrating machine" inside of a box of honey is a pretty big joke. Well, we can be thankful that the newspapers have a good opinion of us and our occupation, any way.]

A. I. R.

#### BICYCLES FOR LADIES.

The following bit of eloquence and truth we clip from the Philadelphia Germantown Telegraph:

Now, with the ladies' bicycle she can go where she will, when she will, and how she will. Her exercise is out of doors, where she may feel of God's sunshine and breathe of his uninvited air; the exercise may be as gentle or as hard as she has a mind to make; she can go four miles or forty miles in this direction or in that direction, and as fast or as slow as suits her own sweet will. The hills and dales and surrounding country, so prosaic before, take on new life, new interest, now that she has learned to ride. There is no horse to shy, no groom to employ, no stable to provide. Her wheel is always ready, always obedient, always her slave—more, it is the most fascinating and invigorating outdoor gymnasium that was ever devised. With its aid a glow can be brought to the palest cheek, and a rich, coursing, healthful circulation to the most stagnant blood.

Well, now, I can not say, from personal experience, as to the women-folks; but so far as I am concerned, the above is no exaggeration. It is true, every word of it.

#### PROF. LOWE AND HIS BOYHOOD.

I am particularly interested in boys (my children are all boys); and when I read in GLEANINGS about Prof. Lowe I wanted to give you a short sketch of his boyhood. When very young his father deserted his family of three small boys; the mother proved incapable of taking care of them, and threw them on the town. My husband's aunt (Mrs. Perkins) was elected to have "Thad" in her family; and as she already had more boys and girls than a drinking father could support, poor little Thad had a hard time. As soon as he became old enough he ran away and joined a show. After a time he wrote back, "Great oaks from little acorns grow," and nothing more. They heard of him

from time to time through the papers, and he was always working up. Surely his words have come true. He takes his family to the White Mountains now, and I often wonder whether he tells them of the misery he endured there. When a child he was delicate, and different from other children, and even then never liked work on the farm.

MRS. G. E. BALCH.

Harmon, Ill.

[There are several lessons we may learn here. First, having a hard time during boyhood does not always spoil a boy. On the contrary, it may serve to develop his best powers. I sincerely hope and trust there has been a temperance reform in the locality where poor Thad was brought up. Being deserted by his father, and then cruelly treated, probably by another drunken father, was enough to make any boy run away. I presume that, like most boys, he disliked to write letters; but thinking that his friends would like to know something about him, he finally got up energy enough to write the very short letter you mention. It is almost equal to some of the schoolboys' compositions we read about. Very likely his delicate frame was unfitted for the hard work of the farm. I know something about that myself; and even when I was sixteen, my father said I was not worth 25 cents a day in the harvest-field. But I had a natural love for farming and agriculture, notwithstanding. The matter was not presented to me in just the right way at that time, and perhaps due allowance was not made for a boy so thin and spare, who was growing rapidly. Prof. Lowe now has a taste for agriculture—at least, you would think so if you were to see his grounds in Pasadena; and I think, too, he must have a taste for almost all outdoor industries. His recent achievement of building an electric railway to the summit of Wilson's Peak is along in that line; and when he rides up to the summit on his own car, and looks off over the landscape and the ocean, I wonder whether he thinks of that short letter he wrote home to his friends. I do not know any thing about it, of course; but I hope he remembers, too, the great God above, who has given him mental and physical strength and endurance for all that he has accomplished during the years that are past.]

#### A GOOD-NATURED MAN, AND HOW HE BECAME SO.

I have not used a penny's worth of medicine in forty years. I don't need any—never expect to use any—haven't used tea nor coffee for more than fifty years, but have used milk, warm from the cow, for about 65 years.

When old enough to milk I said to my mother, "Our calves and pigs have new milk, and they look better than the neighbors' calves and pigs. I don't see why new milk wouldn't be better for children." "I never heard of such a thing; it would make you sick," said she. But I began; and, though the taste at first was very unpleasant, I persevered until I liked it. I still use it at every meal—good Jersey milk. I will send you one dollar and fifty cents to apply on GLEANINGS. It seems that, by the marking on the margins, the two numbers brought me day before yesterday were read in Burke, then sent to Bellmont Center; and even when they got to this neighborhood they were read by a considerable number of persons, who thought they were "just splendid," before they reached me. I have no fault to find, for all the people all over the county, nearly, know whatever reading-matter I chance to have is free to everybody who chooses to read. Whenever I do get a number I read first the article headed "Ourselves and Our Neighbors." I should read

extensively on bee culture, as I have a few bees—78 swarms—in good shape.

W. H. J. DREW.

Chateaugay Lake, N. Y., Jan. 24.

[Well, friend D., I should think you were a good-natured man. We are glad to have GLEANINGS read, especially when the readers seem to enjoy reading it as do those you mention. Well, if you can stand it, all right; but whenever any numbers of GLEANINGS get lost or worn out, just apply to us and you shall have more free of charge. Oh! I want to say to our readers, that the explanation of your wonderful good nature lies in that opening paragraph. You learned when a boy that new milk, right from the cow, was good to drink, and cheaper than doctors' stuff; but, by the way, do not be too sure that you will never need medicine. I sincerely hope you may not; but you remember the old injunction, "Let him that thinketh he standeth, take heed lest he fall."]

#### A SAD LETTER FROM A BEE-KEEPER'S WIFE.

Dear Mr. Root:—I have sad, sad news to write. My dear good husband, John D. Adams, was drowned Aug. 21, while trying to save our hired man's life. They were both drowned. We all know he died trying to do his duty; but, oh it is so hard to give him up! it was such a shock on us. If he had been sick, and I could have stood by his bedside, knowing that he must go, it surely wouldn't have been so hard. Mr. Root, no one knows what it is to part with a dear good companion until the trial comes. Just a few weeks ago our home was lively and cheerful, but now it is sad and lonesome. Oh how we miss him!

A precious one from us has gone;  
A voice we loved is still;  
A place is vacant in our home,  
Which never can be filled.  
God, in his wisdom, has recalled  
The boon his love had given;  
And, though the body slumbers here,  
The soul is safe in heaven.

I beg an interest in the prayers of the bee-keepers that I may ever do my duty in raising my fatherless children. He loved his bees so dearly we can not bear to part with them, so we intend to keep them, and do our best with them. Oh so many responsibilities I have to shoulder! Pray for me. ANNIE F. ADAMS.

Nira, Iowa.

[Most certainly will we remember to pray for you; and while doing so we can rejoice that yours is a faith that goes beyond this world. Just at this time, when floods are likely to occur with the breaking-up of the ice and the melting of the snow, it behooves us to be careful about taking risks in water. Many a person has been drowned, when he evidently scarcely thought of being in danger. Dear friend, you may rejoice in the thought that our good brother died in the effort to save the life of a fellow-man.]

A. I. R.

#### A PLAN FOR CONVERTING DARK HONEY INTO WHITE; NOT BY THE GLUCOSE METHOD, BUT SUBSTITUTION.

Many a bee-keeper in this vicinity found last fall a considerable part of his surplus to be buckwheat and other dark honey; and, on attempting to sell it, found but a limited market at a very low price.

If I could set forth a scheme by which such an unsalable article could be instantly converted into nice white honey I suppose they and others similarly situated would be made much happier. While I know of no magic by which

dark honey may be *transmuted* to white; yet I think there is a plan by which it may be *exchanged* for white at the cost only of time and a little labor. It is better not to try to market such honey, nor even to take it from the cases in which it was made.

My plan is, to place the cases in the spring under the brood-chamber of the hives, before the time for putting on surplus cases arrives, calculating the matter so that all space in the body of the hive will be filled by the honey which the bees will carry up except what is needed for brood-rearing. This will force early swarming and the storing of all white honey in sections when surplus cases are added, on the advent of the white-honey season. At the close of the clover and basswood season, take off all cases, remove merchantable honey, and return the rest to the cases, putting the best and most nearly completed by itself; then return to the hives, selecting energetic swarms having combs occupied either with honey or *young* brood. Place a heavy case on the top, and its complement under the brood-nest; and in a very short time the upper one will be filled from the lower, and completed. This plan gives you white honey without admixture of dark. When there is such a mixture the dark sells the light, not the light the dark.

For the after-crop of honey, second-hand boxes may be used; but it is false economy to put on old boxes for clover and basswood. In the same way, empty combs are a detriment to the fancy part of your crop, but an advantage to the lower-grade portion.

Flint, Mich.

EMILY E. WEST.

[We believe this plan has before been proposed, and has to some extent been put into practice. At first we thought you were going to propose to lighten the honey by glucose; but your plan is far better, and, what is of far greater importance, is perfectly unobjectionable from a moral point of view.]

#### QUEENS FROM THE SOUTH VS. THOSE FROM THE NORTH.

Has any one experimented to see whether the progeny of queens raised in the South, and sent north, are as hardy as from queens raised in a cold climate? If queens raised in the South are as good for the North as those raised up here, Southern breeders have a great advantage over Northern queen-breeders.

#### HOW MANY COLONIES WILL 2000 BASSWOODS SUPPORT?

How many colonies of bees could profitably be kept to pasture on 2000 young basswood-trees, averaging 6 in. through, and 2000 that would average 3 inches? The trees are 15 or 20 years old.

I am much interested in the adulteration discussion, and I consider honey sugar or sugar honey a dangerous thing. I hope it can be detected readily, and prosecuted to the finish.

Cherokee, Ia., Feb. 15. L. J. FAIRFIELD.

[So far as we have been able to observe, queens from the South are just as good as those raised in the North. With regard to the basswood, your question is a hard one to answer. In good seasons, the 2000 trees might yield all that 500 colonies could gather for ten days. Indeed, they might do much more, and perhaps much less. Basswood is a wonderful honey-plant, but we have no accurate data.]

#### BEES AND FRUIT; SOME SENSIBLE WORDS.

The question of bees and fruit-trees again commands the attention of horticulturists and apiarists. In some sections where bees are

numerous the fruit-growers are troubled at this season while packing fruits, and naturally condemn the bees without stopping to reflect upon the advantages to be derived from them in fertilizing the trees and vines from which the fruit is taken.

In England a fruit-grower was surprised to find that, in one corner of his garden, in which were placed colonies of bees, the trees were heavily laden with fruit, while those more remote had set very sparingly. Then he called to mind the circumstance of its being very dark and foggy during the blooming of the trees, so that the bees flew but a short distance from their hives.

The proprietor of a cherry orchard in California found that his trees did not bear remunerative crops after the fiat of the raisin-growers banishing the bees to a distant canyon. Being convinced of the necessity of bees to fertilize the bloom, he procured some colonies, located them in his orchard, and then realized satisfactory returns. Horticulturists and apiarists are like the American Union—one and inseparable.—*Irrigation Age.*

#### BEE-HUNTING.

I am still climbing bee-trees. I went down into the sunk lands this fall and climbed two trees. I got 50 gallons of honey. I had a picture taken of one tree 8 feet through and 90 feet high. If you wish one to put in your journal I will send you one. I am going into the bee business. I have 13 stands. I had only one stand last summer, and I sold from it \$19.50 worth of honey at 15 cts. per pound.

GREEN DERRINGTON.

Poplar Bluff, Mo., Jan. 5.

[Send us the picture, friend D., and, if suitable for a half-tone, we shall be glad to use it. If you can get \$19.50 from each stand in a whole apiary, you will soon be a "big bee-man."]

#### HOW TO STOP BEES FROM EATING THROUGH OILCLOTH.

A friend recently showed me a way by which he prevented propolis being fastened to the oilcloth cover of his hives. Like many of us he was troubled by the bees eating through it. He makes a light frame of wood, about a quarter of an inch thick and an inch wide, the size of the hive, and nails it across, keeping it from sagging by putting a doubled strip of tin across the center. This cover laid over allows a bee-space between it and the tops of the frames. This may not be new, but it is efficacious with him. He also prevents the combs being joined together by making the frame 1½ inches wide, allowing a space between when placed in the hive.

R. B. HUGENAN.

Boerne, Tex.

#### HOW TO KEEP BEES AWAY FROM WATERING-TROUGHS, ETC.

I grease the tops of my watering-troughs with any kind of old grease with a little kerosene mixed with it, and have not a bit of trouble with bees in them.

There is a colony of bees located in the chimney of an empty house right here in Carpenter. The combs have become very much blackened from the rains washing the soot down among them, but the bees are still working away. They cast one swarm which hung on the branch of a tree near the house for two days, right in the sun too. No one in Carpenter had the courage to hive them, as they were rather high up. At last some one sent me word, but I was not told of it until they had gone.

Carpenter, Ill.

EDW. SMITH.

#### AN EXCELLENT PLAN FOR GETTING RID OF LAYING WORKERS.

To get rid of laying workers, take the colony infested and set it on a wheelbarrow; then put a clean hive on the stand just vacated, with a frame of good brood, and a queen-cell if you have it. You are now ready for all the field-bees that are out. Wheel the hive that has the laying workers, twenty or more rods from the apiary, and shake the whole outfit of bees off on the ground, and let them find their own way back to their old stand. You can put the combs back, or you can distribute them among other colonies, and give the colony on the old stand frames of empty comb, or foundation, just as you may wish. We never failed to get rid of laying workers by this plan, and we have had considerable experience, especially with laying workers among Cyprian bees, and we very much doubt whether there are any worse bees in that respect than the Cyprians; and if there is a more vindictive bee than the Cyprian, we really should like to see it.

Rochester, O.

M. W. SHEPHERD.

#### A CHEAP WAY OF COOKING WHEAT FOR FOOD, ETC.

God gave us wheat, but we do not use it as he gave it to us. We first take part away. Take the runners off your sleigh, and how will it work?

Milk is the best of food; but the injunction, not to wash our solid food down with it, can not be put too strong. Also, it is said we should not drink it fast. A nice way to prepare wheat for food is to obtain it perfectly free from foul seed and other matter. Take the whole wheat, wash it, soak it five or ten hours, then boil it in a tin basin over the augite mat. Any dish may do to boil it in; but you want the mat, as it is a bad job without one, for the wheat must be boiled half a day. Eat it hot or cold, in milk, with cream, or with butter, or alone. I prefer to have most of the water cooked out when done.

Eagle Point, Wis.

B. D.

#### EMPLOYING HELP, ETC.

When I read of your views and trials with hired help, I am painfully conscious that many men who have land enough to keep half a dozen men at work the year round think it the safest to do what they can with their own hands, and let the rest go. The important thing for all of us is, to endeavor to learn what "temperance in all things" means, in all its phases and in all its fullness, and then strive to live up to it.

W. H. J. DREW.

Chateaugay Lake, N. Y., Oct. 25.

#### COLDEST WINTER IN YEARS; SEVERE LOSSES.

We have had the coldest winter here that we have had for years; and the result as to bees is fearful. Fully fifty per cent of them have frozen and died. Those who tried to winter on summer stands without any packing have lost nearly all. I commenced the winter with 30 colonies on summer stands, but packed as directed in the A B C, and have lost none.

Sneadville, Tenn., Jan. 28. H. F. COLEMAN.

#### FROM ONE COLONY TO 6000 IN 13 YEARS.

If it interests you and the readers of GLEANINGS I will state that, in 1870, a gentleman brought a few colonies of bees (the first) to Tahiti, Society Islands, in the Pacific (French colony), and in 1883, when I left the island, they had increased to six thousand colonies.

Pully, Switzerland.

I. P. GRENO.

## A PLAN FOR KEEPING DOWN INCREASE.

*Editor Gleanings:*—Not desiring further increase, I wish to ask you and the readers of GLEANINGS what you and they think of the following plan to keep down or prevent increase: My hives are all two stories. About the time the bees start queen-cells in the spring, take the upper story (with an extra cheap top and bottom); place it at the side of the hive, and in this place the old queen, with about one-third of bees and brood. Give the two sufficient combs; then when the new queen commences to lay, destroy the old queen and unite the two. You will confer a favor by pointing out any objection to the above plan, and I should be pleased to hear from many of your advanced bee-keepers on the subject. E. P. CRANSTON.

Keating, Oregon, Jan. 25.

[We think the plan would discourage increase, if not prevent it, in most cases, altogether; but when bees once get the swarming mania it seems as if nothing would stop them. In such cases, let them swarm; hive them in a hive on frames of foundation, and put this hive and all on top of the parent colony, with a bottom-board between, so that there is no communication between. After the honey season, remove the dividing bottom and let them unite. We did this one season, and it worked very well. Of course, in the parent colony we cut out all the queen-cells but one before the swarm with its hive was placed on top.]

## NO BURR-COMBS ON THE NEW HOFFMAN FRAMES.

I see you wanted to know our experience in regard to brace and burr combs on the new Hoffman frames. With me they are complete. I do not think there is one on the 250 bought of you last spring. I used full sheets of medium foundation. The Dovetailed chaff hive is nearly perfect. I have had a hard winter, but the two colonies out of doors are alive yet in them, and 35° below zero. W. E. L. MILLS.

Lac-qui-Parle, Minn., Feb. 15.

## SCARLET (OR ITALIAN) CLOVER.

## ITS VALUE AS A HONEY-PLANT AND AS A CLOVER TO BE PLOWED UNDER.

*Mr. Root:*—I inclose a circular from the Western Seed Co. The country is being flooded with them, and some of our farmers are investing. Please give your opinion. Our altitude is 2300 feet; and I tell those who ask my opinion, to invest on a very small scale, as it will hardly be a success here. J. L. MCKENZIE.

Howesville, W. Va., Jan. 13.

We give below the contents of the circular referred to:

Scarlet clover is an annual, and should be sown between July 15 and October 1. It germinates quickly, grows very rapidly through the fall and winter (where the winter is not too severe), making excellent winter pasture. It blossoms between the middle of April and the middle of May (according to latitude), and matures seed in June. This clover can be sown after crops have been removed from the ground, such as wheat, oats, millet, beans, potatoes, or, in fact, on any vacant ground, or can be sown in corn at last working, or later by first stirring the ground. In this way it will prove of inestimable worth in holding the valuable nitrates in the soil that are otherwise washed out of bare ground, while at the same time it furnishes the very best of fall, winter, and spring pasture, and enriches and stores up plant-food for the next crop.

Scarlet clover grows from  $1\frac{1}{2}$  to 2 feet high, with magnificent root formation, extending from four to six feet deep, even in unfavorable soil. It can be

turned under as a fertilizer for any crop early in the spring, or will produce eight tons of green fodder on good ground by the middle of May, or from two to three tons of superior hay. The yield of seed is from eight to fifteen bushels per acre, weighing 60 pounds to the bushel. It flourishes on poor soils and furnishes for them more plant-food in a short time than could be secured in any other way.

Scarlet clover can not grow with wheat or rye, as it grows while they remain dormant, and takes the ground. It can be sown with timothy. It may be sown in the spring, but the result is a shorter growth and late bloom, but makes a most desirable bee-pasture.

Being a supplementary and extra, or "stolen crop," no other crop need be omitted to grow it; also, it grows quicker and adds more fertility to the soil than does any other known plant in so short a time. We believe its spread through the country will add materially to the prosperity of the agricultural classes. The price of seed is as follows: Per bushel, \$10.00, f. o. b.; per half-bushel, \$5.20, f. o. b. For all quantities less than half a bushel, 20 cents per pound.

THE WESTERN SEED CO.,

South Bend, Ind.

[The above plant has been for years in our seed catalogues, among the list of honey-producing plants; and we have grown it, to a small extent, for several seasons. I have noticed of late, through the agricultural papers—especially the *Country Gentleman*—that a good deal is said about using it in place of other clovers. It certainly is a great advantage if it can be put in in the latter part of July or fore part of August. I very much doubt whether it will take root so as to stand the winter, if put in during the latter part of August. Perhaps in favored localities it would do to put it out in September. It certainly is a rank grower. A little bed of it in our rich market-garden grounds attracted the attention of farmers as they passed by; and quite a number asked why it would not be a splendid clover to turn under. I have never tested it in this way. All our sowings have been in May and June. I have never paid enough attention to know whether it winters over with us or not. If it does in South Bend, Ind., it certainly does here. I do not think I ever saw any as much as two feet high; and the statement that it will produce eight tons of green fodder per acre, it seems to me, must be an exaggeration. Perhaps on the very richest ground, during the most favorable seasons, it might come pretty near it. My experience is, that it will not flourish on poor hard clay ground, any thing like sweet clover. I can not tell how much seed should be sown to the acre. Perhaps some of our readers can give us a little information. It has been advertised quite extensively in the *Country Gentleman*, and in other papers, at \$6.00 a bushel. We can furnish any quantity of clean tested seed at the above figures; and for large lots we could make the price, at present writing, \$5.50, or even \$5.00. Friend M. is very right in advising farmers and everybody else to test a small patch of it first, before going into it largely. Besides, these people who are tempted to invest in new things of this sort should look over their catalogues, or go to their seed merchant to look it up and give them the proper price. While we can not pronounce the circular a humbug or a swindle, it certainly is a scheme to get more than the market value for a farm product that is comparatively well known.

With the present interest that has been called forth within the last year or two, it is destined to be pretty thoroughly tested. It is such a great beauty that it ought to be given a place around our homes as an ornamental plant, if for nothing more. When in full bloom it looks more like a wonderful crop of strawberries than almost any thing else, the color of the clover-heads being much like that of a beautiful ripe

strawberry. Here is something further in regard to it:]

**CRIMSON CLOVER AS A HONEY-PLANT; QUALITY OF THE HONEY, ETC.**

A correspondent in last GLEANINGS, Feb. 1. has asked about the crimson clover, *Trifolium incarnatum*, as a honey-producing plant. It has been grown at Biltmore the past few years as a forage crop, with excellent results. The seed is generally sown in our locality in early autumn, in time for the plants to attain a fair foothold upon the soil. It is one of the earliest plants to start into growth in the spring, and in early June the field is a glowing sea of crimson flowers. During the time that we have grown this valuable clover it has never failed to be a source of nectar; and the bees (both the honey-bees and their cousins the bumble-bees) may be seen upon the same plant, and are kept busy during the entire season of bloom. In the apiary, which is a small one, we got from every strong colony one Dovetailed super filled with the choicest honey from this source.

Crimson clover blossoms before white clover, when sown in the fall; and, with us, has proved to be an excellent honey-plant and a good forage crop. I do not know that crimson clover could be grown in the North by sowing the seed in the fall, nor do I know its value as a honey-producing plant when sown in the spring. I should not hesitate to try it grown on either plan. The quality of the honey gathered from crimson clover is of the finest—almost colorless, and of exquisite flavor and aroma. In my estimation it is not surpassed by the famous honey gathered from the sourwood (*Oxydendrum arboreum*), which, in the mountains of the Carolinas, is considered par excellence.

Biltmore, N. C., Feb. 11. C. D. BEADLE.

## HIGH-PRESSURE GARDENING.

BY A. I. ROOT.

### MORE ABOUT THE POTATO ONION.

*Mr. Root:*—Thinking that my experience in cultivating the English potato onion might be of interest to you or the readers of GLEANINGS, I give it below. These onions increase by small ones about the plant-bulbs. The bulb must be one year old before it will produce any bulbs around it. I separate my bulbs just as soon as the tops die in the summer, and place them in a cool dry place until late in the fall, leaving the tops on them. While the ground is yet dry and warm, mostly in the latter part of October, I prepare my plot of ground by deep plowing and thorough harrowing and raking, laying it off in rows 15 in. wide and 3 in. deep. Be certain to make your rows straight, or you will cut the onions when you use your hoe. Plant the new bulbs, *i. e.*, the ones grown in the summer just past, in these rows every three or four inches, pressing them well in the bottom of the row. Cover well by making the row a little full on top, and thoroughly pack the earth by passing a heavy garden-roller over them.

Before freezing weather, give them a coating of either well-rotted manure, and over this a layer of straw, or else cover with stable manure which has considerable straw in it. I prefer the well-rotted manure, and straw over it. This covering is to protect the onions during the winter, and to furnish food for plant-growth in the spring. In this way you will have choice onions for the table before other people have planted theirs in the spring. About the time most persons make their garden, or a

little later, go along and remove all the straw, and carefully cultivate between the rows of onions with a garden-fork or some instrument of that kind. After this, cultivate as you do other onions. If you have good loose ground, well drained, and lying to the sun, you will see onions at the end of the season that will make you proud.

If you wish your onions to be very nice, pull them just as soon as the tops are dry, or well withered up, and lay them thin on boards in the shade, and keep cool.

Now for the onions that produce the increase. Prepare your ground thoroughly by deep cultivating just as early in the spring as you possibly can. Lay off in rows 18 in. apart and 2 in. deep. Plant the year-old bulbs 6 or 8 inches apart in the rows; cover lightly, and settle all with the garden-roller. Cultivate frequently, but not too close to the bulb, or you will destroy the young bulbs that are forming. Gather as before described in case of the onions to be eaten. I have tried planting old and new bulbs, both fall and spring, and can say that I can get the best results when planted as above described.

To give you an idea how productive they are, I will tell you that, on a plot of less than 30 ft. square, I raised over 10 bushels last year. I was raised in a market-garden, and had considerable experience with the potato onion.

O. S. BROWN, M. D.

Londonderry, O., Feb. 22.

### THE EGYPTIAN, OR WINTER ONIONS.

*Friend Root:*—Our sales were more than double this year than ever before, consequently we are out, but have about four acres planted for next year. We never saw them look so fine at this season of the year.

I notice in your number for Sept. 1st, that you recommend planting onions four to six inches deep. If to be done with a sharp stick, I think this is a mistake; but on your rich loose land it may be different. My idea is to plant them deep, as you say, but put little covering on; but after they get well started, work up the dirt to them. They will grow much faster, and be more sure of a good stand when they are covered so deep. It takes them so long to get through, and they do not seem as strong.

Rio Vista, Va. M. T. THOMPSON.

### POTATO ONIONS; IMPORTANCE OF PUTTING THEM IN EARLY; NEW VEGETABLES WORTHY OF NOTE.

I wish to emphasize one point in their cultivation, which is of the greatest importance; *i. e.*, setting them out early. They should be set just as soon as the ground is thawed. Don't wait for it to dry. A few years ago I became deeply interested in this variety of onions, and purchased 20 bushels of large ones at harvesting time, to set the next spring. After looking up every authority on the subject I thought I knew how to grow them; but they gave me little more than my seed back, and I have learned since that the trouble was they were set out too late. For bunching they are just the thing to follow the Egyptians, and I have failed to find any onions as good for the purpose at that season. I have never tried the White Multipliers, but shall do so this season. I have been in the habit of testing most of the promising novelties in vegetables, and I find once in a while one of merit. Last season I was very much surprised to find a sweet corn five days earlier than the Cory, and in every way just as good. The seed came from Burpee, as "Burpee's First of All." I also found Burlington Hybrid very late, and, I think, almost worthless for gardening.

In early beets for bunching, I find the "Elec-

tric." offered by Tillinghast, to be just a little earlier than Eclipse or Egyptian, and considerably better in shape, and superior for outdoor culture. It makes better beets for marketing in the winter. I have grown this variety in a small way beside the Eclipse, Egyptian, and Lentz, for three years, and shall grow it exclusively this season. Last year I had one-eighth of an acre of the Electric.

Oneida, N. Y. EDWARD B. BEEBE.

[Thanks for the point you give us, friend B. We tested the Electric beet, but unfortunately did not put any Eclipse or other kind out at the same time so as to tell which was best. We shall this season give the corn and the beets a trial with other varieties.]

#### A PLACE FOR SIFTED COAL ASHES.

Here is an item which may be of use to your "high-pressure gardeners" who have a heavy or sticky soil when wet. Early in the season, after the ground is made ready for small seeds, there will frequently be a wet spell, when it may be possible to open a drill, but almost impossible to cover the seeds after they are in; or after seeds have been put in, heavy rains may compact the soil so they can hardly get through it. I have found the following plan will overcome this difficulty: Open the drill and cover the seeds with sifted coal ashes; firm well, and the seeds will come up nicely; then, too, the ashes clearly mark the location of the drill, making cultivation easier. I have tried this for three years with beets, cabbage, lettuce, radish, and other small seeds. I think insects dislike ashes.

JOSEPH F. BARTON.

Chicago, Ill., Feb. 6.

[Many thanks for your suggestion, friend B. To tell the truth, I have just been using sifted coal ashes for covering onion seed in the greenhouse. They do not bake or crust over as do our clay soils, and the onions seem to have a peculiar bright look as they come up through the ashes. Perhaps I should explain, that the ashes I am using is a material that drops down at the back end of the flues of our boilers. We have several wagonloads of it in the course of the year. It is about as fine as wood ashes, but considerably heavier. As we burn all our sawdust and shavings, there may be some wood ashes among the coal ashes; but the amount is so small, that, when I put them in my mouth, I can not detect any potash by the taste. It seems like so much sand. And, by the way, we have for some time been covering the seeds in our plant-beds with sifted sand, and it makes the beds look nice, and the seeds have no crust to break in coming up. I think sifted coal ashes will be an improvement; and I am pretty sure, too, that it will improve hard clay soils. For sowing seeds in the greenhouse and cold-frames, it is almost as easy to cover them with sifted ashes as with soil; and then if you pat down the surface of the bed with a board after the sowing is done, it gives your work a workmanlike appearance; and our small boys seem to get the weeds out easier where they have a level surface with a white background, so they can see the weeds easier. Another thing, the weeds seem to come up more readily out of either sand or ashes than out of hard clay soil; and when you come to water the plants, there is no baking on the surface. We can not afford to have a crust forming on the surface of the plant-beds after the heavy waterings we give the beds when they get dry.]

#### BERRY-BOXES AND SCANT MEASURE.

What is the right size of box to use for berries—wine or dry measure? The wine measure

is used here entirely, and folks all the time grumble because they don't get a full quart; so I went to using the dry measure, and you can't make them believe they are getting a good measure. They say, "Your box is a little larger around, but the bottom is up higher." Now, what would you do? I am willing to do the right thing: but I do not like to have people say I am cheating them. One man said to me, "You are selling a pint of berries for a quart," I said, "No," and bet him \$5.00 I was giving full measure, and had the box measured right on the street, and it was all right. Then he tried to crawl out of it. I did not want his money, and would not have taken it if he had offered it to me. I have about made up my mind to buy the wine measure, and let people have something to grumble about.

Brookfield, Wis.

P. H. FELLOWS.

[Friend B.: I would purchase such boxes as are most commonly used. Of course, however, I should prefer boxes that hold a full pint or a full quart, if this can be definitely settled. Then I would tell my customers that the price is so much a boxful, and I would give good rounding measure every time. Sometimes the boys say we must come down on the price of our berries, to meet competition. But I tell them, "No, don't come down on the price—at least, not just now; but give heaping measure." I suppose you know we sell our strawberries and raspberries in pint boxes. Sometimes when customers tell how low others sell, we say, "Well, others must do as they think right and proper. What we do is to give you a box like this, so full, for 8 cts." The above would be when we were getting 15 cts. a quart—8 cts. a box, or two boxes for 15 cts. These remarks refer, of course, to retailing from the wagon. When it comes to wholesaling, it would be very desirable indeed that all purchasers use one kind of box. If they do not do it, however, I would try to make up in quality and good full measure, so that my product would bring as much, or, better still, more, than that which is sold by those who are not conscientious.]

#### THAT EVERBEARING RASPBERRY.

After my mention on p. 781, 1892, the following letter came to hand in due time, but we have only just now found a place for it:

*Bro. Root:*—I am the one who sent you the "Everyday" raspberry—that is, if you have 20 or more bushes. One bush won't ripen berries every day. I don't know the name of this berry, but I suppose it is of the Earhart type. It has been growing here for 30 years. I procured two plants five years ago, and now have about 4000 plants. I could spare 1000 or more, as I am unable to work, having had rheumatism for a long time. I could sell them for 15 cts. each, or four for 50 cts.: \$1.25 per dozen. I see Dr. Miller doesn't like this kind of berry. I suppose he did not know how to handle them. If you pinch them back you lose your fruit, as the new wood is the bearing wood. I have had as high as 500 berries on one cane.

M. L. HOBBS.  
Middleport, Meigs Co., O., Nov. 12.

[We do not usually permit advertisements in the reading-pages; but I feel so sure that a raspberry-plant like my own will give satisfaction I have decided to let the above go in. In one of our seed catalogues we find the following in regard to the Earhart raspberry:

An everbearer, introduced by Hale Bros., of Connecticut. It is a good grower, and produces fruit from June till October; and when a market can be had at a high figure, it will pay. It is also valuable for the home garden, as it gives fruit throughout the fall.

Very likely the seed catalogues give the most favorable side of the question. Perhaps I should add, that mine are on some of our very richest and best market-garden ground; and the result is, that all through the fall we had more or less great beautiful berries, and it seems to me they were more luscious than any other raspberries I ever ate before. One reason for this is the very rich soil, before mentioned; and another is, I took them right from the bushes.

#### BUSH LIMAS, ETC.

I have just received \$118.00 for Henderson bush lima beans—part of the outcome of one quart of seeds bought of you in the spring of 1891. I have a bushel of seed left for my own planting. Your Mammoth sweet corn gave tiptop satisfaction last summer in our market. In this market almost all kinds of sweet corn are shown side by side, and I had the pleasure of the most praise on the Mammoth, I believe. White Plume celery is hard to "butt against." I sold \$43.00 worth in ten minutes the other day.

Sidney, O., Feb. 21. P. O. THOMPSON.

[Friend T., this illustrates what may be done with the novelties when we are so fortunate as to get hold of one that is really valuable. You may remember that I felt so well satisfied when the bush lima bean first came out that I invested pretty heavily. The first season I sold quite a good many of the dry beans for \$20.00 a bushel. They have only just now got down to about the price of pole limas; and my impression is, that they can be raised almost as cheaply as common field beans. One trouble is, they keep ripening through so long a period, that, if not gathered, the pods will burst open and let the dry beans fall on to the ground. To remedy this, we have small boys go over the patch and pick all that are ripe enough for seed, at intervals, until just before frost; then we pull them, dry them in the field, or in a loft, and thrash them like common beans. While I got my money back, and made a very good thing on the investment on the Henderson bush lima, I lost heavily on the Kumerle; but I think now, that, if I had held on to it until we had had a moderately dry season, especially after I knew a little more about putting them on dry ground, well ridged up, I think I might have done well on them also. You see by the seed catalogues that they are just now coming to the front again.]

#### WELL WATER FOR IRRIGATION; POTATO ONIONS, ETC.

*Friend Root:*—I never got hold of a paper I liked so well as I do GLEANINGS; it seems to be condensed. There is nothing in it just to fill up; it is all good, from cover to cover.

Is well water unfit for watering a garden, strawberries, or plants? Is there any thing about the water that is injurious to vegetables, any more than it would be from a creek or river? I am about digging a well, putting up a windmill and supply tank, mostly for the purpose of watering strawberries. I lost at least \$300 worth of strawberries last year on account of dry weather; but there was a man here the other day who told me that water from a well would kill my plants. He said he learned that while working in a garden in Chicago, I paid a man \$3.00 per bushel for my start with potato onions. Your correspondent describes them exactly, but I set them out in the fall, just before the ground freezes, long enough for them to get rooted well, and then cover them up well with coarse manure or straw, or any thing that will keep them from freezing and thawing; then they are the earliest onion known.

Tekamah, Neb., Feb. 2. J. S. ROBINSON.

[If I could have my choice, I think I would a little rather have soft water for irrigation; but well water is used for that purpose all over the world; and it is very rare to find water so hard, in the alkali desert regions of the West, as to make it unfit for irrigation. I have known of salt water from the ocean being used successfully for many kinds of plants. The water from our windmill is very hard indeed; but I have never known any objection to it, except that, when it evaporates, it sometimes leaves a whitish powder or residue. Sometimes this spots the foliage a little, and may possibly be a slight hindrance until we have rain to wash it off; but I am not sure of even this. I have sometimes wondered if the chemicals contained in hard water might not, in some cases, be beneficial to plants. We know that, nowadays, they are using a great variety of chemicals for fertilizers. I think I have heard that, in the desert regions, water very strongly impregnated with alkali, in time, proves to be an injury to the soil; but the well water you are likely to get in your locality feel sure, would not be detrimental.]

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## OUR HOMES.

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He that followeth me shall not walk in darkness, but shall have the light of life.—JOHN 3:12.

The above beautiful text I found in a new book that has been taking a strong hold upon me of late. The book is entitled, "In Health." But instead of considering this matter of sickness and disease from the standpoint I have been considering it, Dr. Ingersoll considers the spiritual and mental conditions necessary for health. He takes the ground that a great part of the diseases that afflict men and women are caused by rebellion against God's laws. As an illustration: The Authorized Version of the New Testament reads, "Whosoever is angry with his brother, without a cause, shall be in danger of the judgment." The New Version, you will notice, leaves out the clause, "without a cause," entirely. As it reads, Jesus made a simple positive statement as follows: "Whosoever is angry with his brother shall be in danger of the judgment." Now, it is not our province to discuss here which is right—the new or the old. I do not believe it will hurt us if we accept the New Version; and this book teaches that a great part of our indigestion, with paralysis, loss of strength, and a thousand other resulting evils, comes from giving way to fits of anger, or, more often, because of cherishing a rebellious spirit when we are *not* angry. People rebel against their lot in life. How many of the readers of GLEANINGS are secretly rebelling against the place which God has seen fit to give them in this world? Well, my friend, it is cherishing and allowing this rebellious spirit to grow, that is the cause of your aches and pains and general distress of body. If you say, when this old doctor and your friend A. I. Root tell you this, that you do not care if it is injuring your health, you are not going to submit, etc., then you are in *great* danger. Of course, I do not mean that *we two* are infallible, nor do I mean that it is one's duty to submit meekly to every indignity; but I mean this: That, when we get into a rebellious spirit toward the existing state of things, Satan is so sure to creep in and suggest sinful thoughts, that the chances are very great that we had better submit rather than to get into a frame of mind that unsuits us for fighting existing evils. What shall we do? Why, you know already what I would advise; and Dr. Ingersoll most emphatically

advises this very thing: Take your trouble, your care, and your burdens, whatever they may be, to Him who said, "Come unto me, all ye that labor, and are heavy laden, and I will give you rest."

This book, "In Health," quotes Scripture, and quotes it with such a direct practical bearing, that it almost startles me. When I found the text at the head of this talk, quoted in one of those direct and practical illustrations, it seemed to me that I had never found it before, and I love to read it over and over—"He that followeth me shall not walk in darkness;" my friend, how often have you felt that you were walking in darkness?—"but shall have the light of life." What is the light of life? The Savior used the word "life" in a grander and loftier meaning than it had ever been used before or has been since. He meant by it, spiritual life—a life that brings us near to God, and tells us of God and of his plans and purposes.

Perhaps I should say, before going further, that this book, "In Health," is mainly to married people. It is a wonderful exhortation to conform to God's laws, and to believe that God made no mistake. It is a book that, very likely, you would not care to leave on your center-table; and yet I begin to have a conception of a good time coming when such books may be safely given to the children. I would a thousand times rather have my children taught by a gray-haired patriarch like Dr. Ingersoll, than that they be taught by the poisoned and impure minds that every now and then are found even in our public schools.

One of the singular things in this book, and one that will doubtless offend many people, especially if they do not have patience to read the book carefully and thoroughly, is, that the author, in teaching social purity, says these natural feelings that come to us as we approach maturity should not be stamped out and killed out. They should be allowed to grow and develop, but in a *sanctified* way. They should be recognized as a part of our being, sent from God, to be consecrated and used like other gifts. I think some of the teachings of the book are possibly a little dangerous, because, perhaps, they may be misunderstood; but yet I do believe there is great truth in them. We are in the habit of calling certain things low and animal. We do this because we see them allowed to go unrestrained, in a low and animal direction. When consecrated to Christ Jesus, and guided by an earnest, honest, loyal devotion to God, they are *God-given*; in fact, they are one of the things that go to make up a man. Now, suppose this man, with mistaken notions, tries to stamp them out; suppose he makes it a subject of prayer, that God may stifle and kill this part of his manhood. Many a man has done this; and in some cases it seems as if God had granted that prayer. The man is a man no more, in the sense that God intended him to be one and wanted him to be. He is crippled in one of the greatest essentials of manhood. He has lost, in a sense, one of the strongest, most enduring sources of energy that courses through the veins of manhood from one generation to another. In other words, we may have been ascribing to *Satan* certain things that came from God. The business of a real true man is to guide and direct this force within him, that sometimes seems like the pent-up steam, that shrieks as it rushes forth, while it draws the heavy laden train of care behind it. When I use the term "man" I use it in the broad sense that includes woman also; for she has a part, to be sure, in every thing that concerns manhood. It is the woman's mission to fill the sacred office of motherhood to the world; but while she discharges this office in a way

that is pleasing in the sight of her Maker, she can also, we are beginning to learn, fill most gloriously many other offices. The world is just now beginning to discover that not only are the mothers to train the children while they are small, but they are to look after their training while in the schools. Whenever I hear of a mother being a member of a school-board, I inwardly say, "May God be praised!"

Well, I hardly need tell you that women suffer more from a certain class of diseases than men do. Why is it? This book suggests that, in a certain sense, they are more *rebellious* against God's laws than men are. They rebel against discharging the duties of this very same motherhood. There are more women in this land, perhaps, than you are aware of who declare they are not going to be mothers; they are not going to sacrifice their lives, nor wear themselves out for *anybody*, born or unborn. They are going to have an easy time of it. Perhaps they do not say outright, "No matter what the Bible teaches, and no matter what nature teaches," but they are rebellious, and they insist on having their own way. Sometimes they get so determined to have their own way in this matter that they break not only one but perhaps half a dozen of the commands of the decalogue.

Please excuse me, dear friends, if the above seems hard and severe. I know it does not belong to all of you. Permit me to make an extract from the book I have mentioned:

Faith in Christ is the all-sufficient remedy for the sins of men and nations. If mankind would receive the power of Christ for the regeneration of sexual life, the sacredness of marriage would never be profaned by the terrible sin of interference with the Almighty in the birth of immortal souls. No person ruled by God could ever have such a thought or purpose. While in the depths of the heart it is acknowledged to be a great sin by those who commit it, still they invariably seek to justify their murderous designs and deeds by the counsel of physicians or friends. The darkness in which they live can never be dispelled by the wisdom of man,—only by Christ, through the redemption of sexual life.

"Marvel not that I said unto thee, Ye must be born again."

Does this office of motherhood wear women out, bring them to premature graves, or send them to the insane-asylum? Oh, no! no! Statistics, if they could be had, would show it just the other way. The mothers of our nation are healthier than those who refuse to be mothers. In fact, right among your own circle of friends and acquaintances you can find plenty of cases where stubborn diseases that our doctors and sanitarians could not cure have all disappeared when the patient became a *mother*. When she had a rollicking boy of her own to love and train and teach, and absorb the best and noblest instincts of her motherly soul, then she forgot to be sick; and when this boy grows up and starts off to school with a mother's love in his heart, and a mother's kiss on his cheek, just see that woman grow! See not only how her physical frame, but her intellect, broadens and expands! Heretofore a selfish, frivolous girl, she begins to be interested in the affairs of nations; for this boy—her *very own* boy—is soon to go forth, possibly out among the nations; and *through him*, and the possibilities that lie before him, she begins to study geography, commerce, manufactures, and possibly politics and law, for she is an *interested* party. The welfare—no! no!—not welfare, but the safety and perpetuity of our nation depend upon the mothers; and yet how many there are, who, through narrow and mistaken ideas, refuse to be mothers!

I can imagine right here, that a great con-

course of mothers are saying to me, "Mr. Root, you are a man. You have an easy time of it compared to what we are and have been called upon to endure. You do not know what you are talking about. You and Dr. Ingersoll are not competent judges." I admit this, dear friends; but may I suggest that it was God himself who saw fit to make *you* a woman? It was the great God himself who saw fit to lay the sacred responsibility and burden upon you; and we have God's promise that his grace is sufficient for us. The testimony of the book I have been speaking of, and the testimony of our best physicians, including *female* physicians, is, that your pains and your cares will be less if you accept the office God has called you to fill. One reason why these burdens are so great is because of this very thing of rebelling against it. Rebellion against God's laws, or rebellion against even the laws of the land, makes life's duties ten times harder; and it is, perhaps, truer in this matter before us than in any thing else. The Bible tells us that "God loveth a cheerful giver." The woman who says in her heart, "Lord, here am I, ready to do thy will; teach me thy ways," shall not have a very hard time of it. Dear mothers, please remember that, though I am not one of you, still I am most intimately acquainted with one who has borne all your sorrows. The very best friend I have in *all this wide world* is a mother, and I have been very close by her side while she has passed through all these things of which I have been speaking; so in one sense I do know at least something about whereof I speak. In the Old Testament there is a very beautiful expression which occurs many times, which I have often thought of. It is this: "Thy handmaid;" or, "Behold the handmaid of the Lord." What a wonderful thought! and, oh what a difference it makes in life, if you take up these God-given burdens with cheerfulness, and with hope and faith! If both husband and wife can start out with the duties of each day before them with a cheerful, bright faith and hopefulness, how easy these things that God has laid on us are to bear! Let the husband, as soon as he opens his eyes in the morning, say, "For her sake I am going to labor;" and let the wife also say, "For his sake I will do this, that, and the other." Let each one put the *other* before *self* and next to *God*, and, oh what a reform the world would soon see! When children come into such a home—that is, when God sends them as precious gifts to such a father and mother, what bright, joyous, and devoted children they will be! The little copartnership that started out with man and wife soon enlarges into a small community; and the example of the parents' unselfish devotion to each other will, you may be sure, be copied by the children. You will hear each member of the family speaking of *our* home. They may not say right out in words, "But

a'n't we proud of it?" but they will say so in actions; and when you look in upon that home, what a little paradise here on earth it seems! It will not be one of your tame, listless homes—no, not a bit of it. There will be energy and vim, and boisterous spirits, restrained only by the gentleness of a mother's love. The boys, and girls too, from such a home can be sent safely anywhere. They go off to school, or travel on the cars, or transact business beyond their years, if need be. And divorces—why, the thing is preposterous. Not a single inmate of that home would think of a divorce any more than they would to cut off one of their hands or feet. It is God's presence that makes the home; and with the text that I have chosen shining forth from that home as a motto, who can conjecture what the outcome of such a home will be, and what its effects shall be on the nation—or, may be, the *nations* of the world?

## NOTES OF TRAVEL

FROM A. I. ROOT.

### AN UNKNOWN LOCALITY.

After I had finished my travels, and looked over my Kodak views, there was one I could not locate; but inasmuch as almost all my views were taken when one or more friends



A PICTURE WITHOUT A NAME; SOMETHING WHICH THE KODAK CAUGHT, BUT MEMORY FAILED TO RETAIN.

were with me, I presume likely some of the far western friends will recognize the above view and tell us where it belongs. If so, will they please stand up and speak? It seems to be a common roadway leading into a tunnel in the mountains. Once I thought it might be in Pasadena; but they do not have snow in that locality. It may be possible, however, that it is a very light-colored sand in place of snow, that

seems to cover the rocky mountain-side and banks beside the stream; but I rather think it was a glimpse of winter from somewhere. Then I thought it belonged to the vicinity of the great irrigating canal in Cache Valley, Utah, between Salt Lake City and Ogden. If so, it must have been a view taken from a moving train. I know I tried several times to get such views, but they were a failure; but the above seems to be a pretty good one. If no one recognizes it, then it will have to pass as a glimpse of some unknown locality.



So God created man in his own image.—GEN. 1: 27.

#### EIGHT extra pages as usual.

THE Tunisians, alias Punics, alias North Africans, alias Minorcans, are wintering nicely, with the exception that they appear to have lost their old queen.

We take special pride in the amount and high character of the advertising in our pages of late. Our patrons are beginning to find that our large subscription list brings in the responses. Estimates on advertisements gladly furnished.

OUR bees have never gone so long without a cleansing flight as this winter. Our apiarist thinks their last one was during the latter part of November. In our locality the bees usually get out two or three times during winter. We anticipate no serious consequences, however.

ONE of our subscription clerks reports that new names are coming in faster than he ever knew them to do before. By the way, it is remarkable how our old subscribers stay with us in spite of the succession of poor bee seasons. We take just a little pride in the fact that the subject-matter of our pages speaks for itself.

THE "Condensed View of Current Bee-writings," by E. E. Hasty, in the *Review*, is quite a success. But instead of being a review it is a pleasant, spicy dissertation on ideas, things, and persons in other journals. If Hasty can "hold out" as well as this, Bro. Hutchinson will have to work hard at his end of the "evener" to keep up.

IT will be remembered that we didn't get a taste of those honey caramels sent by the Muths—they were gone before we could. Another box was sent for us. We try to be generous, but somehow that second lot was nearly all gone before any one else had a chance at them. This is not a paid editorial (because this space can not be bought at any price), but an expression of opinion of the deserved merits of the new honey confection-ry. Then, too, we see in this candy a big outlet for honey, and the Muths should be encouraged. See their "ad" elsewhere.

VARIETY is the spice of life, even in journalism. If all our correspondents wrote in the same conventional style, even on new and pleasant themes, there would be a sort of tiresome sameness. We have in the past varied the

routine somewhat by the introduction of Stray Straws, Rambler, and other illustrated articles, and some others of a peculiar nature. In this issue we let a new writer introduce himself in his own way, in the personage of Jake Smith. We have long had him in mind; and, knowing his quaint, honest ways, asked him to write. This he has consented to do.

ON page 37 of the last *Review*, E. A. Daggitt has a valuable article on smokers. He says, quite truly, that the big end of the bellows should point toward the nozzle of the smoker, and that said nozzle should be curved, so as to send a stream of smoke at right angles to the plane of the bellows. This arrangement is handier in that the smoker can be held right side up, and as the thick end of the bellows then comes between the thumb and fingers, a better and more satisfactory hold is maintained. From numerous trials that we have made of smokers made on this combination, we are sure the principle is right. By the way, the Crane smoker is nearing perfection, and arrangements, we hope, will be made soon to put them on the market. Its smoking capacity is simply wonderful.

OF the colonies under absorbing cushions, nine are dead so far (Feb. 27) this winter. Those under sealed covers can not be readily examined without breaking the sealing, and, of course, we can not tell how such colonies compare with those under absorbing cushions; but we shall know in the spring. So far as we can determine from the *appearances* at the entrances of colonies under sealed covers, all is going well. Of the nine dead ones mentioned at the outset, four died from dysentery, and the rest apparently froze to death, being very weak late in the fall. It is evident that the very severe winter so far will go a little harder on outdoor-wintered colonies. Those in the cellars or repositories will winter fully as well as if not better than last year, or, in fact, during three or four of the preceding open winters.

AFTER reading the proof-page of Mr. Cowan's article in this issue, regarding Prof. Cook's quotation from "The Honey-bee," it occurred to us that possibly our proof-reader was inadvertently responsible for the change in the reading of the passage in question. An examination of the manuscript shows that the matter was printed exactly as written. We are sure Prof. Cook did not intend to misrepresent Mr. Cowan's views; but a hasty reading, probably, caused him to skip the comma; and, as the sentence seemed to support his position, he, without saying they were his own, unwisely indicated italics on the word "digestion," to give his understanding of the passage greater force. Of course, it will be seen that this made quite a decided difference in meaning—one that its author does not care to father; hence there is all the more reason that Mr. Cowan should be allowed to explain himself.

#### OPIUM AND STARVATION.

Mrs. Axtell sends us a tract giving the following statement:

"The gross annual revenue derived by the Indian government from opium has not been far from \$32,000,000."

Then she pencils in the margin:

It is the devoting of so much land to the production of the poppy to get opium, so the *Missionary Herald* says, that is one great cause of the famine in India—it is the great cause.

Roseville, Ill.

MRS. L. C. AXTELL.

It is a mistake to "pull up stakes" too hastily, leave your own locality, a good one, and go to one in California that may, perhaps, not be as good. Frank McNay, that big bee-keeper in Wisconsin, would make a mistake to go to California. He can do better where he is. See his article in another column. It seems, also, that all bee-keepers in that State of the setting sun do not make the business pay. See W. G. Hewes' article elsewhere.

In the letter by Mrs. M. Louisa Thomas, in our issue for Jan. 15, page 51, it seems a couple of errors crept in. Mr. Cowan, in writing in regard to them, says:

There are one or two errors which are probably due to the printers. It is said that I spent many years in Africa, Asia, and Russia. Quite true as regards Russia; but I have been only some weeks in Africa, and not at all in Asia, although I have been within a few miles of it. Then instead of "medals" it should read *models* of bees which I showed her.

Of course, it should have been *models*, and we acknowledge this as our mistake.

Some of our readers may be surprised, perhaps, to see so many things in this number dating several months back. Perhaps some of you will recognize things that you had long ago given up as having been consigned to the wastebasket. Be patient, dear friends; and if God gives me strength I expect to dig up many golden grains out of those same heaps that have been waiting for somebody with brains enough, and strength of body to pull out the most valuable from the comparatively unimportant that oftentimes prefaces and follows after.

A. I. R.

#### BEGINNERS, AND INVENTING NEW HIVES.

EVERY once in a while in our correspondence some bee-keeper—evidently a beginner—tells us that he has made a new and important invention in hives, and wants to know what we will give him for an interest in it, before he has even told us what it is. We generally write back, "Why, friend Jones, how do you suppose we can make you a proposition until we know what you have to offer?" This brings a letter giving in detail the principles of the new hive; but we are cautioned not to "give it away." With scarcely an exception we find that our friend has combined together a lot of old exploded and abandoned ideas on the construction of hives; and when we attempt to do him a kindness by telling him these facts, and that it will be foolish for him to invest very much money in it, he curtly informs us that our knowledge in regard to hives must be rather limited and queer, and adds that he has a hive that will outsell any thing else; nevertheless, that is the last we ever hear of it. There is lots of fun in trying to invent something new — something far superior to what the fathers of American bee-keeping have settled down on as being the best; but as a general thing it does not pay. We do not wish to discourage inventions in apiculture; but we do say that *beginners* had better wait until they have had considerable experience. It seems that our co-workers, the editors of the *British Bee Journal*, have had experiences in this line similar to our own. As it echoes so perfectly our own feelings, we reproduce a footnote of theirs, in answer to a correspondent who has just invented a "new" hive:

It is always pleasing to read of the zeal with which young bee-hands devote themselves to new methods of management, and especially to improvements in hive-making. But for years past we have, in our capacity of advisers, invariably recommend-

ed those less experienced to "go slow" in these matters; and the soundness of this advice has never been questioned by those who have passed through the "experiment stage" of their bee-keeping. We therefore once more repeat ourselves, and advise the trial of one or, at most, two hives on the plan proposed; then judge if it fulfills the conditions claimed for it. For the rest, our columns are open for any pros and cons our readers may feel disposed to express on the new hive.

#### NEW RULING REGARDING THE MAILING OF QUEENS TO FOREIGN COUNTRIES.

WE have just received copies of the United States Official Postal Guide for 1892. Knowing that the postal authorities of the Australian Colonies had made some new and favorable rulings in regard to receiving into their ports queen-bees, we turned at once to the paragraph relating to foreign mails, in the new Guide. On page 918, paragraph j, we read the following:

j. Live bees in wooden boxes closed with a wire screen protected by a movable wooden lid may be sent to the Argentine Republic, the Australian Colonies (British), Austria-Hungary, Belgium, Bosnia-Herzegovina, Bulgaria, Canada, Chili, Colombia, Congo, Costa Rica, Dominican Republic, the Danish West Indies, Egypt, France, Germany and the German Protectorates, Greece, Guatemala, Hayti, the Hawaiian Kingdom (Sandwich Islands), the Republic of Honduras, India (British), Italy, Liberia, Luxembourg, Mexico, Netherlands and the Netherlands Colonies including Curacao, Nicaragua, Norway, Paraguay, Portugal and the Portuguese Colonies, Romania, Siam, Spain, Sweden, Switzerland, and Tunis, as "samples of merchandise."

It will be noticed that the new ruling includes the Australian Colonies. In the old one these colonies were conspicuous by their absence; it also made a restriction as to the size of the cage; i. e., 5x2x1 $\frac{1}{2}$ . For various reasons we found it was undesirable to conform exactly to this size; but by the new ruling we are permitted to make whatever size of cage we desire, providing we do not go beyond the weight of 8 $\frac{3}{4}$  ounces as specified under sample of merchandise; and the extreme weight of the queen-cages so far sent to Australia has never averaged more than 3 ounces. With regard to postage on samples of merchandise, we observe that the charge for packages not in excess of 4 oz. in weight is 2 cents per package; therefore the postage on a cage of queen-bees, such as we have been in the habit of sending out, will be just 2 cents instead of 98, that we have been compelled to pay under the old rulings requiring letter postage. We can now send queens more cheaply to Australia than we can to a little town four miles distant from Medina. This is going to prove to be a great boon to bee-keepers all over the world, and will render it possible to introduce valuable strains, not only in the United States, but all over the world, at a cost that is simply insignificant. We are indebted for a large part of this valuable ruling to the bee-keepers of Australia—particularly to Mr. W. S. Pender, of West Maitland. Verily, the world does move.

#### PLAYING WHILE YOU ARE AT WORK.

I HAVE had a good deal to say about work and wages in years past. I have tried to tell a great class of unfortunate people why they do not get better wages. An incident right in line with this is just before me. The neighbor who furnishes the hot-bed sash I spoke about in our last issue has some quite expensive wood-working machinery. Well, his men and boys got a fashion a while ago of throwing blocks and other things at each other. For instance, a man would be very busy, leaning over his work, it might be a buzz-saw or some other dangerous piece of machinery, when somebody, for a joke,

would throw a block and hit him in the back. Of course, the man would start up and look around to see who threw at him, but every one would be sticking to his work, apparently. Now, it seems to me that I hardly need tell you that this is a dangerous matter in a room full of hands and full of machines. A man might start so as to get his hand caught in a machine or in a buzz-saw. Almost ever since we began manufacturing, we have been sorely tried by this sort of foolishness. We can excuse a boy for acting boyish—at least, before he has been told why it would not answer; but a grown-up man who can not be taught to get over this kind of foolishness ought to work for low wages; and if that does not help him, he ought to lose his place. Well, a few days ago somebody who works for this neighbor picked up a piece of cast iron that had been chipped off from some machinery. He threw it, and it struck a man on his back. Then it bounded into a machine, got into the gearing, and a breakdown that cost, I have been told, something like *two hundred dollars* was the result. Who threw the piece of metal? The proprietor spent a good deal of time and very much pains, but he has not found out yet. The one who did it is not man enough to own up and take the consequences; and if the others know, they won't tell. I believe it would be a good idea if the friends who work in shops would cut this out and paste it up, or give it to the boss and let him read it to the hands. Now I will tell you how it affects wages. In the first place, the hands who work in that shop have got to make good that \$200, sooner or later, or, at least, a great part of it. Unless the business pays expenses, including breakdowns, the proprietor can not pay the same wages and go on with his work. In the second place, the boss can tell in a very little time which hand would be *likely* to throw blocks and which one would not. In talking the matter over with the foreman of our lumber-rooms, I spoke something like this:

"Look here, Mr. W., the boy you see going along there will never be in any such work as that."

Mr. W. assented. The reason is, the boy has been carefully brought up by hard-working Christian parents. I spoke again:

"Now, there are A and B, who have been begging for work almost all winter. One is a boy, and the other is a grown-up man. Either one of them would throw blocks, or play tricks on the rest of the hands, any time he felt sure the boss was not likely to be around."

The foreman again nodded his head. You see, friends, it does not take very many weeks nor even *days* to take the full dimensions of any boy, or man either, in this respect. You may think you are sly, and that you succeed in cheating; but not only is God's all-seeing eye upon you, but those *round about you* know the real state of your heart better than you *think* they do.

A. I. R.

#### THE UNION'S EARLY 1893 VICTORY.

The Union, it seems, is not less an exponent for the cause of bee-keeping than it was before. Already it has scored an important victory, affording another valuable precedent. General Manager Newman writes:

*Brother Root*:—The "first round" for the year 1893, in the battle waged by the enemies of the pursuit of bee-keeping has ended disastrously for them. The *National Bee-keepers' Union* comes out as usual, triumphantly, and I think the members of the Union who read GLEANINGS will be pleased to read the news.

On Jan. 16th, as soon as the Senate of Missouri got to work, Senator Sebree introduced the following, entitled, "An Act to regulate the keeping of Honey-bees in Cities, Towns, and Villages in this State,

and to provide a penalty for its violation." The full text is as follows:

*Be it Enacted by the General Assembly of the State of Missouri, as follows:*

**SECTION 1.**—No person shall own, keep, or have in his possession or under his control, any honey-bees in boxes, bee-gums, or other thing of confinement, in any city, town, or village in this State, whether organized under general or special charters, nearer than fifty feet from the line of any adjacent real-estate owner, or person in possession of such adjacent property.

**SECTION 2.**—Any person violating the provisions of the preceding section shall, upon conviction, be fined for each offense not less than ten nor more than twenty dollars, and each offense shall be deemed a period of one week after one notice in writing shall have been given to the owner or person in possession of the bees to remove the same to a distance provided by the first section of this act; and if, after notice, the owner, or owners, or party, in possession of said bees, it shall be the duty of the sheriff of the county, or the constable of the township, in which the offense is committed, to remove the said bees to the said distance of fifty feet; and for reasonable compensation for his services he shall have an act of debt against the owner or person in possession of said bees; and the said bees, nor the boxes or bee-gums, nor any thing in which they shall be kept, shall be exempt from execution to pay the judgment founded upon such claim for said services for removing the same as aforesaid.

**SECTION 3.**—If the said honey-bees can not be removed and kept in boxes, bee-gums, or other thing at a greater distance than fifty feet from the line of the adjacent owner or proprietor, as provided by section 1 of this Act, then in such event the keeping of them in such city, town, or village is absolutely prohibited, and, after ten days' notice in writing to remove the same, the owner or person in possession or control of them shall be punished upon conviction, as provided by Section 2 of this Act.

Here is a clear case of prohibition of the pursuit in all "cities, towns, and villages" in Missouri, if it should become a law, for a bee-keeper must have over a 100-foot lot to be able to keep his bees "fifty feet from the line of any adjacent real-estate owner, or person in possession of such adjacent property." But few bee-keepers would have more than 50 feet in all.

Mr. W. S. Dorn Blaser, ex-Secretary of the Missouri Bee-keepers' Association, sent the "Bill" to the Manager of the Union, and instantly the Decision of the Supreme Court of Arkansas was brought into play like a Gatling-gun, and copies of it were sent to the members of the Legislature and to the Governor. Letters were written to them, advising them not to allow it to pass, showing that it would be a dead letter, as it was unconstitutional, and would be so construed by the courts, as they had the precedent of the Arkansas Supreme Court to guide them.

The Hon. R. L Taylor, President of the Union, was appealed to, and he backed up the General Manager, by giving his "opinion" on the bill—that it was unconstitutional, and should be "fought to the end" vigorously.

Mr. Joseph G. Banning, President of the Missouri State Bee-keepers' Association, also appealed to the Manager of the Union, and was instructed to fight the bill at every step—that the Union would see him through, etc. If it had passed both houses, then the Governor would have been appealed to, and would in all probability have vetoed it. President Banning writes me thus: "I thank you for your prompt assistance."

When it came up in the lower House, the legislators were "posted," and promptly killed it. And thus ends another chapter in the "Comedy of Errors" of the enemies of apiculture! The Union is again triumphant, and adds "another feather in its cap."

A similar "farce" is now being enacted in Nebraska, but it will doubtless end in a like fizz. Bee-keepers have a right to be proud of the achievements of their Union for Defense.

THOMAS G. NEWMAN,  
General Manager.

Hurrah for the Union! It should have good and hearty support. As it will have other important work, perhaps, in other lines for this year, the membership should continue to increase.

## SPECIAL NOTICES.

Cold-frame cabbage-plants sold out for this season.

**SHOEPEG SWEET CORN, FOR SOWING BROADCAST FOR FODDER.**

We have a quantity of this, harvested in 1891. It germinates from 50 to 75 per cent. We offer this, while it lasts at 50c a peck, or \$1.50 per bushel.

### POTATO ONIONS CHEAPER.

Since our last, I have succeeded in making a purchase so that we can furnish either the small onions to plant at once, for bunching onions, or the large ones to be put out to make small ones or sets, at a uniform price of 90c per peck; \$1.75 per half-bushel, or \$3.00 per bushel, for immediate orders.

### NUCLEUS HIVES CHEAP.

That extractor at Northville, Mich., which we offered in last issue, is sold; but we have at the same place to dispose of, 10 double 3-frame nucleus hives. Each hive contains six wired Hoffman frames, with a division in the center, making two 3-frame hives in one. We will sell them for \$1.00 each, five for \$4.00, or \$7.50 for the 10 complete, put up and painted ready for use.

### OUR NEW CATALOGUE.

As soon as this issue is printed we begin printing the spring edition of our catalogue. It is printed from electrolyte plates, cast from new type, and is a great improvement over former issues. There are some few important changes which will be mentioned later. We shall hardly have it completed before April 1st; but as soon as done we expect to send one to each reader of GLEANINGS as well as our last year's customers. You need not, therefore, send for one if you are a subscriber or customer, for you will get one as soon as finished.

### "CELERY FOR PROFIT."

A new book, full of pictures, by our old friend Greiner, has just been placed on my table. It is written in the author's bright, hopeful, and intensely happy and interesting vein; and the illustrations all through are up to the very latest date. It covers the ground of the new celery culture entirely; discusses the latest method of irrigation, etc. When I laid it down I felt like saying that there is not another man in the world who can write books on gardening, with the life, energy, and enthusiasm of Greiner. The time has gone by for books full of dry, dull, and prosy details, especially on rural subjects. Price 30c. We can furnish it, or you can get it of Burpee, the publisher.

### GARDEN SEEDS—ADVANCE IN CERTAIN KINDS.

As usual at this season, certain things that are much called for begin to be cleaned out of the market, and, of course, prices must advance. For instance, we shall probably very soon be obliged to make an advance on onion-sets of all kinds—American Wonder peas, Prizetaker and Globe Danvers onion seed, and there may be some others. We will fill orders just as long as we possibly can; but when we have to pay more for the goods than the prices we advertise, there will have to be an advance without notice. I do not like advances—it makes bad work, I am well aware; and we have a good many times sold seeds for exactly what we paid for them, rather than to annoy our customers by telling them that certain things had "gone up."

### VEGETABLE-PLANTS READY MARCH 1.

Owing to the very severe weather, we have very few transplanted plants of any kind, unless it is the Grand Rapids lettuce. We have a splendid stock of these, well rooted. The regular prices are 40c per 100, or \$2.50 per 1000. We have a fine stock of almost every thing direct from the seed-bed, if any of our friends should want them that way. We have onion-plants that would do to put out under glass, but not quite strong enough to go into the open field. Asparagus-roots and strawberry-plants we shall be ready to ship as soon as the frost is out of the ground; and appearances are just now that it will be out in three or four days. We can ship horseradish roots at any time.

### MORE CARLOAD SHIPMENTS.

As we go to press we are loading the second car for W. K. Ball, Reno, Nev., and Inyo Co., Cal. We have received an order for a carload of supplies from Vickery Bros., Evansville, Ind., which will be shipped soon. We expect also to make up another carload for Southern California; and if any of our readers in that section desire to take advantage of this opportunity they should respond at once if they would be in time. Write direct to us or to G. G. Wickson & Co., Los Angeles or San Francisco, Cal.

### ONE-PIECE SECTIONS.

Our new machinery for making sections does not materialize as soon as we had hoped, and it is doubtful whether we get it in readiness for much if any work this season. The sections we are now making by the old method are much improved over former years, and about as near perfection as it is possible to get them. The main thing that we hope to accomplish by the new machinery is to cheapen the cost of production. In the meantime we are content to work on a closer margin of profit, and sell you sections as cheap as you can get an equally good article elsewhere. Remember, our sections are now put up in slatted boxes holding 1½ bushels, and worth about any home 25 cts. each for handling or storing potatoes, apples, or for a multitude of purposes that will suggest themselves to an economical householder. Our price on any width of the 4½ sections will be as follows. Of No. 1 cream, we have only 1½ and 1½, open top and bottom; and of No. 2, only 1½, open top and bottom. Other widths of these grades not furnished.

	100	250	500	1000	2000	3000	5000
No. 1 Snow-white	.50	.85	\$1.50	\$3.00	\$5.80	\$8.50	\$13.50
No. 1 Cream .....	.45	.75	1.25	2.50	4.90	7.10	11.25
No. 2..... . . . .	.40	.60	1.00	2.00	3.90	5.70	9.00

### STILL ANOTHER BOOK ON GARDENING, "MARKET GARDENING AND FARM NOTES."

For the first time in the world, or, at least, so far as I am informed, one of the Landreths has consented to write a book. The Landreths, you know, are the old veterans in the seed business of the United States. This book, too, is well up to the times, and exceedingly interesting. But although it treats of greenhouses, gardening under glass, etc., there is not a single picture in the whole work, from beginning to end. Aside from this, the book is full of valuable suggestions. The author agrees with me fully, in regard to having glass structures so made that the plants can be "turned outdoors" whenever the weather will permit. See the following extract from the book, p. 88:

### CARE OF HOT-BEDS.

"Hot-beds should be covered early in the evening, to retain their heat, and in the morning uncovered when the sun rests upon the glass, as every effort should be made to give the plants all the sunlight possible, as its rays are vivifying to a degree beyond the amount of its heat, it having a chemical and physiological effect beyond explanation. Even dull light is better than no light, consequently it is a bad plan to cover sashes with mats, except for the direct purpose of keeping out cold."

The book gave hints worth its cost before I had it in my hands 15 minutes. Price, bound in cloth, \$1.00. Published by the O. Judd Co. We can mail it at the above price if desired.

### MAPLE SUGAR AND SYRUP.

The season is upon us when the sweet is harvested from the sugar maples. None of these delicious sweets has been brought in by the producers yet; but with the beautiful weather we are now having it will not be many days before we shall have a plentiful supply for all demands. We have some good syrup of last year's production that we will sell, to close out, at 99 cts. per gal.; 5 gallons, \$4.25, or 10 gallons for \$8.00, all put up in gallon cans, and guaranteed pure maple. In fact, we do not handle any maple products that we will not guarantee pure maple, so that our readers need not fear to order lest they get something adulterated. We will stand our reputation on the purity of goods we handle. Our prices for the choicest new maple syrup will be, for a single gallon, \$1.10; 10 gallons or more, \$1.00 per gallon. Maple sugar we divide into three grades—No. 1, at 10c per lb.; No. 2 at 9c, and No. 3 at 8c. In lots of 50 lbs., ¾c per lb. less. In barrel